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C.B. 437

# A HANDBOOK OF CHINA PROPER

VOLUME II  
KIANGSU

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JUNE 1917

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NAVAL STAFF  
INTELLIGENCE DIVISION

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## NOTE

THIS volume deals with the Province of Kiangsu, or Chiang-su, which lies astride the mouth of the Yangtse.

The contents are broadly subdivided into three sections, in the first of which the physical and economic conditions, the people, the history of the province, the water communications, and railways and roads, are treated in some detail. The second section contains itineraries of routes by land and water throughout the province, and, in some cases where it is obviously convenient, beyond the borders of the province. These itineraries have been critically examined and checked; the authorities in all cases are stated. Section III is a gazetteer of the principal cities and towns.

The map of Kiangsu on the scale 1 : 400,000 is a new work based on the latest available surveys. Some portions are more accurate than others—the information relating to South Kiangsu is fuller and more reliable than that dealing with North Kiangsu—but on the whole it is believed that this map is substantially correct, and a considerable improvement on its predecessors.

The Admiralty will be glad to receive corrections and additions.



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# SECTION I

## CHAPTER I

### GEOGRAPHICAL OUTLINES, CLIMATE AND FAUNA

Physical Geography—The Upland Regions—The Plain of Kiangsu—Lakes—Canals and Embankments—Climate—Fauna.

#### PHYSICAL GEOGRAPHY

THE greater part of Kiangsu is flat and low-lying, but on both sides of the Yangtse above Chinkiang and in the south-west of the province there are upland regions of some extent. It is best to begin with a description of these.

#### *The Upland Regions*

Going up the river from Shanghai a few detached hills rise from the plain on either side of the river. As Chinkiang is approached the country on the south becomes more hilly. East of the Grand Canal only a few summits rise above the level of the surrounding loess, but west of it the heights become more marked and an upland region, made up of groups of nearly parallel ranges, extends as far up the river as Nanking. This hilly belt has a width from north to south of seven to ten miles and its general trend is from east to west. Most of the ranges rise from 600 to 800 feet above sea-level, but some of the summits attain a height of 1,000 to 1,400 ft. and even more. A terrace of loess from 80 to 200 ft. in height fringes and isolates them on all sides and raises the contour between the various ranges.

To the south of this region lies the basin of the **Chin-huai Ho**, a river which flows into the Yangtse at Nanking. The central part of the basin is low-lying and of alluvial formation, but

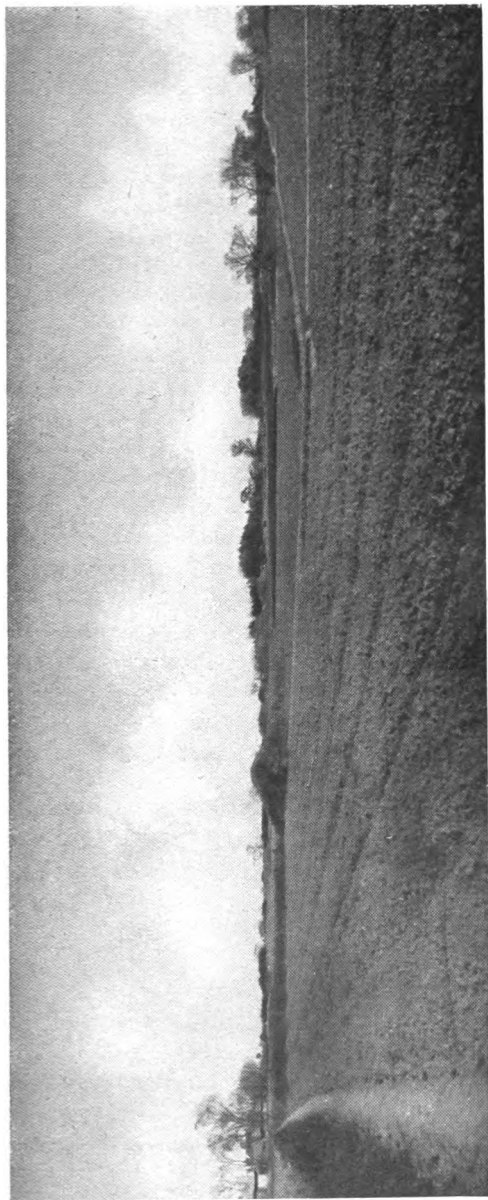
its outer margins consist of hilly country which extends to the Yangtse above Nanking in the west, southwards as far as the Hsi-pai Hu (Hsi Hu), and eastwards toward the Grand Canal. The hills here are lower than those on the northern margin already described, and only in isolated places do their summits emerge above the covering of loess which lies over the greater part of the region drained by the river.

To the north of the Yangtse, between Chinkiang and Nanking, an alluvial belt from one to six miles broad lies between the river and a plateau of loess which forms the most important topographical feature of this part of the province as seen from the river. The plateau has an undulating surface but does not much exceed 200 ft. in height. In places truncated cones appear above the loess and reach from 400 to 700 ft. above sea-level. The peculiar features of their outline renders the scenery on the north quite different from that on the south side of the river. Some of the cones are extinct volcanoes, while others appear to be fragments of a volcanic tableland. Opposite Nanking itself there is a low range of hills, probably similar in origin to those on the southern bank.

In the north of Kiangsu only a few upland districts rise above the general level of the plain, and these are of no great importance. Near the coast, not far from the city of Haichow, are the isolated hills of Yün-t'ai Shan, which reach a height of 2,200 ft. Further to the west a range of low elevation, apparently an outline of the Shantung massif, runs southward into the province for some distance and terminates not far from the town of Shuyang. There are also some bare rocky hills of not more than 500 ft. in the north-west of the province.

### *The Plain of Kiangsu*

The remainder of Kiangsu is a plain of alluvial origin built up by the deposits of the **Yangtse**, the **Huai**, and the **Huang Ho**. Of these rivers the Huang Ho, before it deserted its former bed, probably played the most important part, as it flows through the loess districts of China and therefore carries down to the sea a much larger amount of sediment than does



SOUTH KIANGSU : TYPICAL SCENERY



the Yangtse. In such a region as this, change is constantly taking place. On the coast, for example, many of the sandbanks deposited by the Huang Ho in earlier times are probably being washed away by the sea, as that river no longer contributes to their maintenance. In the delta lands of the Yangtse, again, minor changes are always in progress. Material is being removed in one place and deposited in another; some islands are being destroyed, others extended; rivers and creeks are gradually being silted up. Probably there is not a seasonal flood but brings about modifications in the existing topography.

### *Lakes*

The greater part of the plain of Kiangsu has emerged from below the level of the sea within comparatively recent geological times; the slope of the land is gentle and the river system is accordingly not well defined. In such a region lakes are of common occurrence, and Kiangsu is no exception to the rule. South of the Yangtse the largest body of inland water is the T'ai Hu or Great Lake, which is about 40 miles long by 40 broad. In winter it drains to the Grand Canal, but in summer, if the local rainfall is not great, it receives some of the excess waters of the Yangtse. Further to the east a considerable part of the country is covered with a complicated system of lakes of smaller size, lagoons and marshes, which communicate with one another, and either give rise to natural rivers or feed the artificial canals by which this part of the plain is so much cut up. The lakes probably represent former portions of the T'ai Hu which has been reduced in area by the silt deposited by the rivers flowing into it.

North of the Yangtse, in the region between it and the former course of the Huang Ho, the country presents the same general characteristics, though not quite to the same extent. The Hung-tsê lake receives the drainage of the Huai basin and is nearly as large as the T'ai Hu. It lies partly in Anhwei and partly in Kiangsu, and is connected by various channels with the Grand Canal. Its excess waters go either

to the Yangtse by way of the Canal or directly to the sea by various channels which lead from the Canal. To the south-east of this lake but still to the west of the Canal are the Paoying Hu and the Kaoyu Hu which, along with the Hung-tsé lake, act as feeders of the great inland waterway. Further east the largest body of water is the Ta-tsung Hu which drains by various channels directly to the sea. North of the old bed of the Huang Ho the lakes are smaller and less numerous, and the water-courses are much fewer.

### CANALS AND EMBANKMENTS

Man has also had an important influence on the configuration of the country as it exists to-day. Between the Yangtse and the old bed of the Huang Ho this is particularly clear. The land to the west of the Grand Canal is at a higher level than that to the east of it. Much of the latter has indeed been reclaimed from the sea by human agency, and the polders which have been formed are protected by a great embankment, known as the **Fan-kung-ti**, from the inroads of the sea on their eastern borders. A similar embankment, which however runs much closer to the coast, has been constructed in South Kiangsu. The construction of the **Grand Canal** (see Chapter VIII), again, has affected the natural drainage system of the country to a very considerable extent, and as the Chinese custom is to raise the banks of a canal rather than to dredge its bed, it is obvious that the physical development of the rivers which drain to it is greatly affected thereby. We may also note in this connexion that an intricate system of natural and artificial waterways, designed partly for irrigation and partly for communication, covers the greater part of central and more especially southern Kiangsu.

### CLIMATE <sup>1</sup>

With the exception of the extreme northern parts of Kiangsu the climate of the province generally does not differ widely

<sup>1</sup> See also Chapter on Climate in Vol. I, China Proper.

from that of Shanghai. For the greater part of the year it is suitable for military operations, and there is nothing at any season to prevent operations from being carried on. If, however, there is a choice, the period from June to September inclusive should be avoided on account of the heat. The best season of the year is from October to January inclusive, for the weather is then cool, and rain is perhaps less likely to fall than at any other season. In the spring, although the temperature is pleasant, rain is to be expected. Floods are liable to occur in the delta in summer and autumn, making some of the roads impassable. Floods do not affect the navigability of the larger waterways, but may make some of the smaller creeks impassable to boats with a high freeboard, owing to the lowness of the bridges.

Hot weather may occur in May and September, but the real hot season is from June to August. This is also the time of the heaviest rainfall. The mean temperature is then nearly  $80^{\circ}$  in the neighbourhood of Shanghai, but the nights are very rarely hot enough to prevent sleep.

The cold in winter is not extreme. It usually freezes at night, but the days are often pleasant. The mean temperature for the months of December, January, and February is just under  $40^{\circ}$ .

In summer the lightest clothing should be worn, and a sun helmet is necessary at least from May to September inclusive. From November to March inclusive a sun helmet is quite unnecessary.

For the winter, warm clothing and four blankets per man should be issued, but furs are unnecessary.

The following statistics are extracted from 'Notes on the Climate of Shanghai', by Père J. de Moidrey, of the Sikawei Observatory. They refer to the climate of the neighbourhood of Shanghai, but there are no great differences in the climate of different parts of Southern Kiangsu, and these details will be found to apply approximately to other places.



Months.	Temperature of average year.				Average rainfall.		Average cloudiness: 0 = cloudless sky. 10 = completely overcast.	Wind.	
	Max.	Medn.	Min.	Average diurnal range of temperature.	Number of days with rain.	Amount of rain in inches.		Mean velocity in miles per hour.	Mean direction.
January . . .	60	37	20	10	10	2.15	6.3	8.4	N. 9° W.
February . . .	62	39	23	9	10	2.29	6.8	8.7	N. 8° W.
March . . .	74	46	29	12	13	3.21	6.8	8.9	N. 52° E.
April . . .	84	56	36	12	13	3.57	6.7	9.3	S. 76° E.
May . . .	88	64	46	13	13	3.60	7.0	8.7	S. 55° E.
June . . .	95	75	57	11	14	6.66	7.4	8.5	S. 53° E.
July . . .	98	80	67	9	11	5.10	6.2	8.9	S. 39° E.
August . . .	97	80	67	10	11	5.94	5.6	8.4	S. 62° E.
September . . .	92	72	58	11	12	4.72	6.3	6.9	N. 45° E.
October . . .	83	63	41	12	10	3.31	5.8	6.5	N. 31° E.
November . . .	74	52	30	12	7	1.85	5.1	7.1	N. 8° W.
December . . .	65	42	22	12	7	1.18	4.7	8.4	N. 23° W.
Year . . .	81	59	41	11	131	43.58	6.2	8.2	

### Notes on the above Table

**Temperature.** The highest recorded maximum is 103° F. The lowest recorded minimum is 10° F. The highest recorded minimum is 82° F.

On the average there are only 13 nights in the year when the thermometer does not fall below 77°, and these hot nights scarcely ever occur, except in July and August.

The heat of the summer in Shanghai is only oppressive when the wind blows from the south-west. Wind from this quarter is rare, and on an average only blows for 240 hours in the four hot months, June to September.

The average number of days in the year when the temperature does not rise above freezing-point is 11. Frost occurs on an average on 47 days in the year, and the average total number of hours of frost is 408.

**Rainfall: Snow.**—Snow is included in the above table of

rainfall. The days shown as 'with rain' include all those on which any rain or snow fell, so that some might almost have been considered fine.

The amount of rainfall at Shanghai is about half that at Hong Kong, but exceeds that at Peking by 50 per cent.

The winter rain is of a much lighter description than the more tropical rain of summer.

Heavy snow capable of blocking roads or railways does not occur. Some snow falls every year, chiefly in January and February. It rarely lies on the ground for more than 24 hours.

*Thunderstorms* occur on an average 15 times in the year, almost exclusively in summer.

*Fogs* occur at the mouth of the Yangtse, especially in the early morning in spring. Inland fogs are not at all common.

In the extreme north of the province the climate is that of the Huang Ho region with its rather severe winters, its dry heat, and its cold wind covering the whole country with dust.

## FAUNA

Kiangsu, flat, cold and dry in the north, its southern parts warm and moist and intersected with swift-flowing, slow or stagnant waters, is situated at the junction of the two great zoological areas of China, and eminently suited to a large and varied fauna. On the long indented coast-line are found numberless sea-birds: gulls, terns and cormorants, dunlins, knots and sandpipers. The sea and the inland waters abound with excellent fish and support a thriving industry. Owing to the dense population this province is very poor in carnivorous animals—just a few wolves and bears, a number of foxes, and the *mustelidae*. Hares are numerous and roebuck, Michie's deer and the Chinese water-deer (*Hydropotes inermis*), which find abundant cover in the fields of wheat, barley, beans and paddy, and in the broad belts of sedge bordering the pools.

In these havens and the bamboo brakes are crowds of small birds. Munias and mynahs (*Acridotheres cristatellus*), sparrows and hedge accentors, bullfinches, hawfinches and the Chinese

chaffinch, the leiothrix and redstart, wagtails and *Budytes flavus*, flycatchers of various species including *Ixus sinensis*, titmice and *Suthora webbiana*, the crow-tit used for fighting in Shanghai.

The Chinese *Zosterops* is the most remarkable of many thrushes and blackbirds. China is poor in singing birds, but it has in winter *Oticoris sibirica*, as fine a songster as the English lark.

Swarms of swallows, *Drongos*, nightjars, and four species of shrike frequent the reeds. The Chinese crow, the blue crow, and the Chinese blue pie bring us naturally to the carnivorous birds of prey, kestrels, merlins, goshawks, sparrow-hawks, owls, the kites dusky and *pallidus*, the golden eagle, and the white-tailed eagle and osprey which frequent the coast.

Cranes, common and Manchurian, some few *leucachen* and many demoiselles, storks, egrets (*Ardea garzetta*), white and night herons, spoonbills, lapwings, curlews, bustards, bitterns, abound in winter ; and lastly the game birds make Central and South Kiangsu a sportsman's paradise. The ring-necked pheasant is found all the year round, though foreign public opinion opens the shooting season on October 1st for them and for the bamboo partridge, woodcock, quail, and winter snipe (*Gallinago caelestis*).

Swinhoe's snipe (*Gallinago megala*) and the pin-tailed snipe (*G. stenura*) come about the end of August and are caught again when returning in spring.

At the beginning of December the wild fowl arrive from the Amur lands ; swans *musicus minor* and *bewicki*, geese *cinereus* and *segetum*, and swarms of duck. Mallard (*Anas boschas*), teal, common, spectacled and falcate, widgeon, shoveller, ruddy sheldrake (*Casarca rutila*), golden-eye, pin-tail, and velvet scoter are the most general. Garganey teal, gadwall, and spot-billed ducks also occur, as do the goosander and the red-breasted merganser.

## CHAPTER II

### HISTORY

Feudal Period : Foundation of Soochow, 513 B. C.—Grand Canal, 486 B. C.  
Middle Period : The Han Dynasties—The Three Kingdoms—Chin Dynasty—  
North and South Dynasties—Sui Dynasty—T'ang Dynasty—Sung Dynasty—  
Yüan Dynasty—Ming Dynasty—Manchu Dynasty—Modern Period :  
First China War, 1840–2—Treaty of Nanking, 1842—T'ai-p'ing Rebellion  
—' Chinese ' Gordon—Recent History.

KIANGSU has only existed as a separate province since the year 1667, in the reign of K'ang Hsi, and the name then given to it was derived from those of its two principal cities, *Kiangning* (or Nanking) and *Soochow*. Previous to that date the present Kiangsu and Anhui both formed part of the Province of Kiangnan.

Geologically considered, the greater portion of Kiangsu is an alluvial plain, formed by the silt of China's two great rivers : the Huang Ho in the north and the Yangtse in the south. In prehistoric times the delta of the Yangtse extended back as far as Wuhu, and the river seems to have found an outlet into the Ch'ien-t'ang estuary by way of the T'ai Hu. Even in the early historic period the configuration of the coast was doubtless very different from what it is now. Only the northernmost part of Kiangsu was occupied by the Chinese race at the dawn of their history, but the legendary Yellow Emperor is credited with having extended his dominion as far south as the Yangtse. Some centuries later the Great Yü (*circa* 2200 B.C.) is said to have 'drained the Empire' and protected it against floods. Some of his work may have been done in the neighbourhood of modern Soochow ; at any rate, it is noteworthy that he was overtaken by death and buried in the extreme south of his realm, at Kuei-chi in Chekiang.

## FEUDAL PERIOD

Little, however, is really known about Kiangsu until the feudal period, when China was divided up into a large number of practically independent States. The semi-civilized State of **Wu**, which appears to have comprised nearly the whole of modern Kiangsu, besides part of Chekiang and southern Anhui, is first mentioned by the *Spring and Autumn Annals* under the year 584 B.C. It was then already at variance with its powerful neighbour **Ch'u**, the inhabitants of which were mostly non-Chinese aboriginal tribes, and which in the seventh century B.C. had extended her sway eastwards from Hupeh over large tracts of Anhui and Honan. Between these two States desultory warfare went on until the reign of Ho Lu (514-496 B.C.), when the genius of **Wu Tzū-hsü**, a fugitive from the Ch'u State, raised Wu with startling rapidity to a great height of military power.

*Foundation of Soochow, 513 B.C.*

When Ho Lu succeeded to the throne, Wu Tzū-hsü became Prime Minister and, being entrusted with the task of laying out a new capital, founded the beautiful city of Soochow in 513. Four years after this an invading army from the Ch'u State was signally defeated, and in 506 Wu Tzū-hsü in his turn attacked Ch'u, won a decisive battle, and entered Ying, the enemy's capital (near the modern Kingchow on the Middle Yangtse), in triumph. This wonderful march into the very heart of China made a deep impression on the surrounding states, and the power and prestige of Wu were now at their zenith. It was about this time that Sun Wu, an officer in the service of Ho Lu, produced his famous treatise on the Art of War, which is still extant.

The intervention of the **Ch'in** State soon compelled Wu to evacuate Ying and to turn her attention to a new rival in the south. This was the State of **Yüeh**, occupying parts of Chekiang, Kiangsi and Fukien, and inhabited, like her neighbours, by a people that had only half emerged from

a state of barbarism. In her first serious encounter with this rising Power Wu was badly worsted, and King Ho Lu himself mortally wounded. This disaster was amply avenged two years later (494) by his son and successor Fu Ch'ai, who defeated Kou Chien, King of Yüeh, in a great battle, and took possession of his capital. But the very magnitude of this success led to Wu's decline and ultimate overthrow; for while Fu Ch'ai contented himself with exacting homage from the vanquished monarch, the latter, with undaunted spirit, at once set himself to reorganize the military resources of his kingdom.

*Grand Canal, 486 B.C.*

Under the year 486 B.C. a brief but important notice occurs in Tso's Commentary to the *Annals*:—‘This autumn, Wu built a wall round the city of Han (the present Yangchow) and formed a channel of communication between the waters of the Yangtse and Huai rivers.’ This, the most ancient section of the Grand Canal, was repaired and enlarged in the third century A.D. Meanwhile, **Shih Huang Ti** (221–210 B.C.) had dug a canal from Chinkiang to Changchow; and the whole of the southern section, between the Yangtse and Hangchow, was completed in the reign of Yang Ti of the Sui dynasty (A.D. 605–617). The third and longest section, from the old bed of the Yellow River at Tsingkiangpu to Tientsin, was cut by the Mongol Emperor Khubilai in the years 1280 to 1283. We know that there must have been a fairly extensive system of canals throughout Kiangsu at an early date, inasmuch as the people of Wu are spoken of as possessing a fleet, with which they attacked both Ch'u on the west and Ch'i in the north. The most ancient canal of which we hear—that connecting Wusih and Changshu Ku—is said to date from the very beginning of the Chou dynasty (about 1200 B.C.).

The death of Wu Tzū-hsü in 484 materially furthered Kou Chien's schemes of revenge. Soon after that event he found himself sufficiently strong to throw off the mask and resume hostilities, though it was not until the year 473 that

Soochow was captured and Wu finally incorporated in the kingdom of Yüeh. In 334 Yüeh in her turn fell a prey to the kingdom of Ch'u, which was able to retain her new possessions until 223, when she was conquered and annexed by the Ch'in general Wang Chien. Two years later the King of Ch'in assumed the title of First Emperor and ruled over a united China.

In the troublous times which accompanied the break-up of the Ch'in dynasty, Kiangsu was again the scene of great military events. In 209 **Liu Pang**, the headman of his district in North Kiangsu, who had struck against an oppressive *corvée* ordered by the Emperor, rose in open rebellion and assumed the title of Duke of P'ei. In the same year Hsiang Liang, with his headquarters at Soochow, succeeded in making Ch'u once more an independent kingdom. His nephew Hsiang Chi prevailed upon the Ch'in general Chang Han to surrender with his whole army, and proclaimed the King of Ch'u as Emperor, he himself becoming king of Ch'u and at the same time chief over the other kings. His capital was fixed at P'êng-ch'êng, the modern Süchowfu. It was here that, in 205 B. C., he fought a sanguinary battle with his great rival Liu Pang, now the ruler of Western China, who lost over 100,000 men and himself escaped only by a miracle from the field. A long struggle followed, ending in a treaty of peace, which Liu Pang at once proceeded to violate; he started in pursuit of Hsiang Chi and inflicted upon him a crushing defeat, whereupon the latter committed suicide, and Liu Pang was proclaimed first Emperor of the Han dynasty in 202 B. C.

Two other famous men of this period were also natives of North Kiangsu. One was Hsiao Ho, who from the very first attached himself to the fortunes of Liu Pang as his most intimate friend and adviser. The other was Han Hsin, the greatest captain of his day, who was born at Huai-yin (the modern Hwaiianfu). He served successively under Hsiang Liang, Hsiang Chi, and Liu Pang, and his series of campaigns against various states are among the most brilliant in Chinese

military annals. In 201 he was created Prince of Ch'u, which then, of course, included Kiangsu, but he was afterwards degraded to the rank of Marquis of Huai-yin.

### MIDDLE PERIOD

#### *The Han Dynasties*

During the 400 years covered by the Earlier and Later Han dynasties, marked chiefly by the struggle with the **Hsiung-nu** or **Huns** in the north-west, the seaboard of China was left in comparative peace. Towards the close of the second century A.D. the 'Yellow Turbans' rebellion shattered the framework of the empire, and civil war raged almost continuously for a hundred years. Owing to the geographical position of Wu, as well as to the shrewd and cautious policy of her rulers, the wars in which she engaged were mostly defensive in character, and she suffered considerably less than her neighbours. When the first outbreak occurred, Sun Chien held sway in the south as Governor of Ch'ang-sha. He joined Ts'ao Ts'ao in opposing the arrogant pretensions of Tung Cho, who in 190 had deposed and murdered the reigning Emperor, but was slain in battle and succeeded by his son Sun Ts'ê. The latter was invested with the title of Marquis of Wu, and died shortly after. The work of his father and brother was ably carried on by **Sun Ch'üan** during a most critical period.

#### *The Three Kingdoms*

Of the several aspirants to supreme power, Ts'ao Ts'ao had made himself master of a large part of northern and central China, afterwards to become the kingdom of **Wei**. He was opposed by Yüan Shao in Shantung and also by Liu Pei, one of his former lieutenants. Sun Ch'üan threw in his lot with Liu Pei, and their united forces overcame Ts'ao Ts'ao's huge army in the battle of the Red Ridge in 207. Liu Pei now withdrew to Szechwan, where he founded the independent kingdom of **Shu**, and after some years of hard fighting Sun Ch'üan was obliged to sue for peace. Not only did he



swear allegiance to Ts'ao Ts'ao, but he also captured and put to death Liu Pei's comrade-in-arms Kuan Yü (now worshipped as the God of War). This act involved him in war with his former ally, but on the other hand he was recognized as King of Wu in 221 by the Emperor of Wei. After waging successful campaigns first against Liu Pei and then against the Emperor of Wei, who was alarmed by the new treaty of amity concluded between his two rivals, Sun Ch'üan finally assumed the title of Emperor of Wu, which he held until his death in 252. His capital was at Nanking, then called Chien-yeh.

### *Chin Dynasty*

The natural barrier of the Yangtse enabled Wu to maintain her existence for fifteen years after the downfall of Shu and Wei, and the establishment of the Chin dynasty. In 280, however, Sun Hao, the grandson of Sun Ch'üan, was deposed, and Wu once more merged in the Empire. Sun Hao, it is interesting to note, is the first who is known to have used tea as a beverage.

### *North and South Dynasties*

\* During the succeeding dynasties of the south, down to 589 A.D., Nanking continued to be the capital. In 403 the rebel Huan Hsüan surprised the city and proclaimed himself Emperor of Ch'u, but was defeated by Liu Yü, a native of the modern Szechowfu, who marched from Chinkiang to meet him. Liu Yü eventually became the first Emperor of the Liu Sung dynasty. In 581 Yang Chien seized the throne of the northern Chou kingdom, and a few years later he sent his generals south to annex the Empire of Ch'ên. Nanking was captured, and North and South China were thus reunited under the sway of the Sui dynasty.

### *Sui Dynasty*

The capital was now transferred to Ch'ang-an (Sianfu), and in 605 it was connected with Chiang-tu (Yangchow) by a canal

40 paces in width, with a towing-path planted with willow-trees. Enormous sums were spent on the adornment of Chiang-tu by the second Sui Emperor, **Yang Ti**, who was assassinated there in 618.

### *T'ang Dynasty*

His death was the signal for the appearance of numerous pretenders to the Imperial throne, but one by one they were defeated by the exertions of Li Shih-min, the virtual founder of the T'ang dynasty, though his own reign did not begin until 627. The State of Wu was again incorporated in the Empire in 621, and for nearly three centuries its annals remained happily dull, though the province was ravaged during the rebellion of Huang Ch'ao in 881.

No sooner had the last T'ang Emperor disappeared from the scene than a fresh partition of China took place. Yangchow, then at the height of its splendour, was the nucleus of a new kingdom of **Wu**, which came to embrace all the land watered by the Huai, and bounded by the sea on the east, by the Yangtse on the south, and by Wu-ch'ang on the west. Out of Chekiang and South Kiangsu was formed the kingdom of **Wu Yüeh**. Wu did not long remain an independent state : in 937 it was absorbed by the Nan T'ang (Southern T'ang) State, set up by the minister Hsü Chih-kao, who assumed the Imperial title. His son, however, was obliged to yield all his possessions north of the Yangtse and acknowledge the sovereignty of Chou.

### *Sung Dynasty*

In 970, when the first Sung Emperor was steadily extending his sway, Nan T'ang took the less ambitious name of **Kiangnan** as a conciliatory measure ; but its existence was still considered a menace, and the general Ts'ao Pin was sent to reduce Nanking. This was accomplished in 975 after a twelve months' siege, whereupon all the other districts of Kiangnan surrendered. Two years later, the King of Wu Yüeh also

voluntarily handed over his territory. At the close of the century, the Empire was for the first time divided into 15 provinces, one of them being Kiangnan.

China's chief bane during the Sung dynasty was the ever-increasing pressure of Tartar tribes—first the Khitans, then the Chins, and finally the Mongols—on her northern frontiers. The final destruction of the Khitan power in 1122 was soon followed by a rupture between the Chinese and their formidable allies. In spite of a gallant stand by the general Tsung Tsê, the onrush of the **Chin** armies proved irresistible, and the capital was successively transferred from Kaifeng on the Yellow River to Yangchow, Chinkiang, Hangchow, Ningpo, and finally to an island off the coast of Taichowfu. In 1129, Yangchow was taken and burned; Nanking and Hangchow shared its fate a few months later, but the enemy's further progress was checked by the heroic resistance of Chang Hsün and Yo Fei. A naval battle on the Yangtse also turned to the invaders' disadvantage. Having laden themselves with loot, they forced their way back through Pingkiang and Changchow, and prepared to return home. At Chin Shan, an islet in the river near Chinkiang, they found a Chinese fleet under the command of Han Shih-chung. A desperate battle, in which the Tartars fared badly, was fought at Huang-t'ien-tang. For 48 days the passage was contested, and at the end of the time the Chins still found themselves on the south side of the river. At length they gave up the struggle and retreated to a point near Nanking, where the crossing was effected without opposition.

By a treaty concluded in 1142 Kiangnan remained in the hands of the Chinese, but in 1161 a formal demand for its cession was made by the Chin Emperor Wan. This being refused, a huge invading army marched south, but was driven back with great slaughter, and Wan himself was soon afterwards assassinated in his camp at Kwachow. Other raids followed, and in 1165 the Chins were able to take possession of the Hwaiian district in North Kiangsu, from which, however, they retired again when peace was established.

*Yüan (Mongol) Dynasty*

About a century later, a new and still more dangerous foreign foe was pouring over Central China like a flood. The **Mongols** under Bayan, coming down the Yangtse, reached Nanking in 1275. The city, which was ravaged by famine and pestilence, capitulated with hardly any show of resistance, and was treated with great kindness and consideration by Bayan. Very different was the fate of Changchow Ku which, on being recaptured by the Chinese, refused to surrender a second time. When the city fell, all the inhabitants were put to the sword. After this, though Yangchow still held out for a while, the whole of the province was overrun by the Mongols, and remained, with the rest of China, under their dominion until the Ming dynasty. Once established, however, the Mongol rule does not seem to have been very harsh. It is significant that in 1287 Confucian schools were opened in all districts of Kiangnan. During this period, Marco Polo, the Venetian traveller, acted for three years as Governor of Yangchow on the appointment of Khubilai Khan.

*Ming Dynasty*

As the power of the Mongols declined, and their government grew weaker, the usual rebellions broke out in various parts of the Empire. Chang Shih-ch'êng, a salt-trader, raised the standard of revolt in 1353, and after capturing Taichow Ku proclaimed himself Prince Ch'êng of Chou. In the following year he made an unsuccessful attack on Yangchow, but in 1356 he got possession of Soochow and Hangchow. Fear of the rising power of **Chu Yüan-chang**, the future founder of the Ming dynasty, who in the meantime had taken Nanking, drove him back to his allegiance; but he still remained practically independent, and in 1363, after further successes in Anhwei, he took the title of Prince of Wu, and refused to forward the tribute rice. The Ming leader also styled his State Wu, and in 1367 attacked Chang Shih-ch'êng, who was defeated and committed suicide. Nanking now once more

became the capital of the Empire, which was divided into 15 provinces, Kiangnan being known as 'the south metropolitan province'.

On the death of the first Ming Emperor the throne was left to his grandson, who at once set to work to deprive his uncles of their domains. But the **Prince of Yen** in the north proved too strong for him. He marched south with a large army through Shantung and the valley of the Huai, and captured Yangchow. The commander of the fleet at Kwachow, whose business it was to prevent the rebels from crossing the Yangtse, surrendered. His example was followed by the commandant of the city of Chinkiang. Nanking was the next city besieged. The young Emperor acted bravely, but was not supported by his generals, one of whom opened the gates to the Prince of Yen. Upon entering the city, the Prince found the Imperial palace in flames, but the Emperor had disappeared, and nothing is known with certainty as to his fate. The new monarch was among other things a patron of literature; he ordered the compilation of a gigantic encyclopaedia, completed at Nanking in 11,100 volumes, and named after his reign-title *Yung Lo Ta Tien*. It was never printed, and only some hundred odd volumes belonging to one of the manuscript copies still survive. In 1421 he moved his capital to Peking, which from that time forth has continued to be the capital of China.

As early as the beginning of the Ming dynasty it was found necessary to station garrisons along the coast in order to protect it against the raids of **Japanese** pirates. By the middle of the sixteenth century their audacity had grown to such a pitch that all trade between China and Japan was suspended, and great military preparations were made in Kiangnan and Chekiang. In 1554 Chang Ching, President of the Board of War at Nanking, was appointed commander-in-chief of all the forces sent against the Japanese. He wisely refused to give battle until his forces had gathered. But this precaution on his part was reported to Peking by an enemy as evidence of his cowardice. Although he gained an impor-

tant victory over the Japanese afterwards, when his reinforcements arrived, he was put to death, and his accuser appointed in his stead. The latter, however, was by no means equal to the situation ; the Japanese actually penetrated as far inland as Nanking, and returned with immense booty to their ships, which were anchored off the island of Chusan. At times they suffered reverses, but they were only driven out of one place to appear in another along the extensive coast-line between Shanghai and Canton. After 1563 Kiangsu appears to have been little troubled with them.

When Peking and the north of China fell into the hands of the Manchus, the only hope left for the national dynasty was to establish an empire south of the Yangtse, after the manner of the Sung; and this is exactly what was attempted by **Shih K'o-fa** and other military magnates at Nanking, where they set up Prince Fu, brother of the last Ming Emperor, as his successor, refusing all overtures from the Manchus. Unfortunately this prince proved utterly unfit for the position he held at this critical time. The Manchu army, with a number of heavy guns, was soon marching south. Shih K'o-fa threw himself into Yangchow, then, as before, the key to Nanking, and was advised to make a breach in the canal and swamp the enemy's camp. This he declined to do on the ground that more Chinese than Manchus would perish. He held that the interests of the people should be considered superior to those of the dynasty. After a brief struggle the city was taken by assault, and Shih K'o-fa slain. Nanking fell shortly afterwards, and Prince Fu was executed. By the end of 1645 the whole of Kiangsu had been subdued.

### *Ch'ing (Manchu) Dynasty*

Perhaps the most formidable opponent of the new régime was the great sea-lord Chêng Ch'êng-kung, better known to Europeans as **Koxinga**, who for many years harried the maritime provinces of the south with relentless persistency. At one time he had under his command as many as 50,000 sailors, 100,000 soldiers, including a large proportion of cavalry, and

some 20,000 auxiliaries. With these forces he made two attempts to seize Nanking. The first expedition was a complete failure owing to bad weather, but on the second occasion, in 1659, he sailed up the Yangtse, landed an army near Chinkiang, and routed, at Yang-p'êng Shan, a large force that had been arrayed against him. Chinkiang was taken and the vicinity of Nanking was reached. One of his lieutenants suggested to him that he should march immediately to Yangchow so as to threaten the communication between Shantung and the south ; but Koxinga rejected this sound piece of advice, and sustained a severe defeat before the walls of Nanking, which compelled him to retire to his headquarters in Amoy. He never ventured to bring his fleet north again, but founded a new kingdom for himself in the island of Formosa.

#### MODERN PERIOD

##### *First China War, 1840-2*

The wars and rebellions which punctuated the reigns of K'ang Hsi and his immediate successors left Kiangsu practically untouched, and it is not until the **Opium War** that it comes again into historical prominence. In May, 1842, a British fleet with transports, under Sir W. Parker and Sir Hugh Gough, lay off Chapu, a port in northern Chekiang. The futility of operations along the coast as a means of bringing the Chinese Government to reason had at last been recognized, and it was decided to make a demonstration of our naval superiority by an expedition up the Yangtse. Woosung, at the mouth of the Huang-p'u River, which had been strongly fortified, was the first obstacle that presented itself. It was taken after a fierce struggle ; and Shanghai, then only a third-class Chinese city, was also occupied by us for a short time. On July 6 the expedition started from Woosung, and a fortnight later 70 ships lay anchored abreast of Chinkiang. The most stubborn resistance was met with here ; the troops encamped outside the city fled, it is true, but the Manchu garrison fought most heroically, losing a third of their num-

bers in killed and wounded. The British losses were also heavy. On August 3 the fleet again got under way and reached Nanking on the 9th. In two days everything was ready for an assault, when the Chinese signified their readiness to submit.

### *Treaty of Nanking, 1842*

A treaty of peace was signed on board H.M.S. *Cornwallis* between Sir Henry Pottinger on the one side and three Manchu Commissioners on the other. Shanghai was one of the five ports then opened to foreigners for trade and residence, and at once began to develop with astonishing rapidity.

### *T'ai-p'ing Rebellion*

Early in 1853 Kiangsu was invaded for the first time by the T'ai-p'ing rebels, who had swept with irresistible force across Hunan, Hupeh, and South Anhwei. Nanking was carried by storm, and in another month the insurgents captured Chinkiang, Yangchow, and Kwachow, which gave them complete control not only of the Yangtse River but also of the Grand Canal. From March 19, 1853, to July 19, 1864, Nanking was the T'ai-p'ing capital. **Hung Hsiu-ch'üan**, the leader, proclaimed himself Emperor, and five of his chief adherents were made Princes (*Wang*). Both Chinkiang and Nanking were soon invested by the Imperialist troops, but a young and able officer, who afterwards became **Chung Wang** (Loyal Prince), relieved the pressure on Chinkiang, and subsequently routed the Imperialists round Nanking itself. In September, 1853, there was a sympathetic rising at Shanghai, promoted by the Secret Society of the Triads, who were able to hold the native city for nearly a year and a half. The encampment of a strong Imperialist force just outside the foreign settlement led to the so-called battle of Muddy Flat on April 4, 1854, in which a handful of English and American bluejackets and volunteers, aided by a timely advance on the part of the insurgents, succeeded in driving off the Imperialists. In the same year a new set of regulations was drawn up which still



forms the basis of the administration of the Settlement at Shanghai. A municipal council was elected, and at the same time the Chinese customs were placed under foreign control.

Meanwhile internal discord had much weakened the T'ai-p'ings, who were fast degenerating into a mere horde of robbers held together mainly by hopes of plunder. In December, 1857, Chinkiang was taken from them ; and, by the autumn of 1858, they had lost most of their possessions in the Yangtse Valley, excepting the two strongholds of Anking and Nanking and the strip of land between them. It is probable that the whole revolutionary movement would have collapsed but for the outbreak of war with England and France. As it was, the energy of Chung Wang forced the Imperialists to retire to a more respectful distance from Nanking, while his colleague Ying Wang brilliantly raised the siege of Anking. It is true that Tsêng Kuo-fan and Chang Kuo-liang succeeded in investing the T'ai-p'ing capital once more, but Chung Wang himself escaped from the city, and in the early part of 1860 created a sudden diversion by appearing with a large force before Hangchow. Chang Kuo-liang fell into the trap and dispatched some of his best troops to the rescue. Chung Wang, however, did not wait for their arrival ; he returned by forced marches to Nanking, and in concert with the T'ai-p'ings in the city fell upon the now enfeebled Imperialist army with extraordinary ferocity. The result was a great victory in which the besiegers were driven from their positions with the loss of all their guns and equipment and more than 5,000 men. Two months later the rebels had overrun nearly the whole of South Kiangsu and part of Chekiang. Soochow was captured, and Shanghai itself was for some time in a precarious position, being only saved by the protection of British and French troops.

In these straits the Chinese turned for help to the foreigner, and a small heterogeneous force of Europeans and Manila men was organized, which, under the command of the American, Ward, succeeded in recapturing Sungkiang. This force, which seems never to have consisted of more than 5,000 men, and at first numbered only a few hundred, obtained by Imperial

decree in 1862 the high-sounding title of the Ever Victorious Army. In May of that year, through a clever stratagem of Chung Wang's, a great disaster befell the Imperialists besieging Taitsang, no fewer than 5,000 of their number being left on the field. On the other hand, Nanking was once more hard pressed by Tsêng Kuo-fan's army, and in November a large rebel force marching on Kiating was intercepted and heavily defeated by Li Hung-chang, the new Governor of Kiangsu, and Burgevine, an able but unscrupulous soldier of fortune who had succeeded Ward in his command.

*'Chinese' Gordon*

In February, 1863, the Ever Victorious Army, led by Captain Holland, suffered its first serious reverse in an attempt to storm Taitsang, and at the request of Li Hung-chang the command was then given to Major Gordon of the Royal Engineers. Under his brilliant leadership the main strongholds of the rebels in Kiangsu were reduced one after another. Changshu Ku was relieved, and Taitsang captured at last, but perhaps the turning-point of the war came when Gordon, supported by the shallow-draught gunboat *Hyson*, gained a sweeping victory before Kunshan, which henceforth became his headquarters. After much fighting and complications resulting from the treachery of Burgevine, who went over to the T'ai-p'ings, Soochow was invested, though Chung Wang's army at Wusih still served to keep open communications by means of the Grand Canal. The Lou Gate stockades were taken on November 29, 1863, and Soochow itself was surrendered a few days later. The T'ai-p'ing Princes in the city were treacherously slain by the order of Li Hung-chang, which caused Gordon to throw up his command in disgust. He was induced to resume it, however, for urgent military as well as political reasons.

From Nanking down to Hangchow the rebel forces were now grouped roughly in the shape of an hour-glass, the neck being at Ihing and Liyanghsien, close to the western border of the T'ai Hu. Gordon's plan was to cut these forces in twain,

and this he succeeded in doing by a sudden dash on Ithing, though a further attack on Kintan Ku in the north was repulsed. Meanwhile, the rebels were defeated in the south, and after the loss of Changchow Ku only Nanking remained to them. In June its plight was such that the T'ien Wang (Hung Hsiu-ch'üan) committed suicide in despair. On July 19 a great breach was made in the wall through which Tsêng Kuo-fan's army rushed in. The once superb city lay in ruins, even the famous Porcelain Pagoda having been destroyed. Chung Wang defended the place to the last, but was ultimately taken and executed with some seven thousand followers. Thus the greatest rebellion that the world has known came to an end.

### *Recent History*

The recent history of Kiangsu has been comparatively uneventful, being intimately bound up with the phenomenal growth and prosperity of **Shanghai**. In 1862 the French concession was withdrawn from the municipal system set up in 1854, but in the following year this was more than counterbalanced by the incorporation of Hongkew, which rapidly developed into a populous bustling district lined with wharves and warehouses on the river front. The Mixed Court was established in 1864, with civil and criminal jurisdiction not only over the Chinese but also over foreigners without consular representatives in the Settlement. The suppression of the T'ai-p'ing rebellion was the indirect cause of a great commercial crisis, when six out of eleven foreign banks suspended payment, but fortunately this was soon followed by a truly golden era for the silk and tea trades. A railway line connecting Woosung and Shanghai (the first seen in China) was laid in 1876 (see Chap. IX), but the whole line was purchased by the Chinese Government, which promptly had the rails torn up and shipped off with the rolling stock to Formosa. Twenty years later the line was rebuilt, and now connects Woosung with Nanking. The neutrality of Shanghai was respected during the Franco-Chinese hostili-

ties of 1885, the war with Japan and the Boxer rising, as well as the Revolution of 1911. Early in 1905, Kiangsu was divided into two provinces, South and North Kiangsu (or Kianghwai); but the division proved unpopular, and after lasting about three months it was revoked. Soochow and most of the other cities of Kiangsu that were wrecked by the T'ai-p'ings have regained their normal prosperity. Nanking, which has passed through so many vicissitudes, was again the scene of fighting in 1911. It was besieged by the Revolutionaries, and fell on December 2. It was there that the Revolutionary Convention elected Dr. Sun Yat-sen first President of the Republic of China.

## [CHAPTER III

### THE PEOPLE OF KIANGSU

Population—Language—Religion—Education—Hygiene.

#### POPULATION

ACCORDING to the 1910 census the population of Kiangsu was 17,300,000, with an average distribution of 448 to the square mile. The actual distribution, however, is irregular, an exceptional density occurring in the districts south of the Yangtse and in the delta formed by the mouths of that river.

North Kiangsu, which is known as Chiang-pei because it lies 'north of the river' Yangtse, is inhabited by a purely Chinese people, who are for the most part poor and engaged in agricultural pursuits. The men are 'of fairly large stature, moderate opium smokers, and on the whole friendly to foreigners'. Richard (*Comprehensive Geography of the Chinese Empire*, p. 157), however, states that 'the inhabitants of Süchowfu, in the extreme N., differ vastly in general characteristics and in manners from the rest of the Province'. They are, he says, 'rude, sturdy and turbulent. Many of these Northerners have a rather prominent nose, sometimes even aquiline, while the cheek-bones do not protrude, and the eyes are not almond-shaped.' It should be added that in the vicinity of Tsingkow men often have reddish instead of the usual black hair.

South Kiangsu, which is known as Chiang-nan ('south of the river'), is densely populated, especially in the eastern districts, where the average in places exceeds 1,000 to the square mile. The people are pure Chinese. They are said

to be more effeminate and less robust than the inhabitants of the neighbouring provinces ; but on the other hand they are more intellectual. On the whole they are a peaceful and law-abiding people. The land in the Yangtse delta is cultivated to the last yard.

### LANGUAGE

Speaking broadly, the Northern Mandarin dialect (*Kuan hua*) is used throughout Chiang-pei or that part of Kiangsu which lies north of the Yangtse. The principal exceptions to this general rule are Yangchow, which has its own variety of the Mandarin, and the Haimen promontory, where the Shanghai dialect is spoken.

In Chiang-nan or South Kiangsu a great variety of dialects are used, the extremes being the Shanghai or Sungkiangfu vernacular, and the Southern Mandarin, which is spoken at Nanking. Thus, going west from Shanghai a distinctive dialect is met at Soochow, and another at Wusih, and so on to Chinkiang, where the influence of the Southern Mandarin begins to be felt. These dialects and the many intermediate varieties are not divided by any well-defined boundaries, but insensibly merge into each other, though the extremes are widely divergent. The Sungkiangfu or Shanghai dialect is one of the Wu dialects, and is spoken by many millions of people.

English is spoken to a certain extent by the educated classes in the Treaty ports, and pidgin-English by the less educated traders.

### RELIGION

The general note on religions in China (vol. I) is applicable to the province of Kiangsu, and need not be repeated. In addition to the great mission centre of Shanghai, where there are several hundred workers, the *China Mission Handbook for 1914* gives 21 mission centres in the province of Kiangsu, viz. :

Antung	where there are		4 women workers
Changchow	„	3 men and 5	„
Chinkiang	„	11 „ 18	„
Haichow	„	3 „ 3	„
Hinghwa	„	5 „ 4	„
Hwaiianfu	„	2 „ 4	„
Kiangwan	„		3 „
Kiangyin	„	4 „ 8	„
Liuho Ku	„	2 „ 3	„
Nanking	„	51 „ 77	„
Soochow	„	28 „ 57	„
Süchowfu	„	6 „ 6	„
Sungkiangfu	„	2 „ 9	„
Sutsien	„	4 „ 6	„
Taichow Ku	„	2 „ 1	„
Tsingkiangpu	„	5 „ 9	„
Tsingpuhsien	„		1 „
Wusih	„	3 „ 6	„
Yangchow	„	9 „ 38	„
Yencheng Ku	„	2 „ 2	„
Zangzok (60 miles NW. of Shanghai)	„	1 „ 2	„

The women workers include the wives of the men missionaries.

The *China Inland Mission Atlas*, in its list of Protestant mission stations in Kiangsu in 1908, gives the following additional stations: Changshu Ku, Ihing, Kaoyuchow, Kiatinghsien, Kunshan, Nansiang, Sinchang, Tsangyen (?), Tungchow, and Woosung; besides Kongwan, Santingko, and Sinza in the Shanghai district.

## EDUCATION

The educational system in operation in Kiangsu does not differ from that prescribed for the whole of China: see general article on Education in vol. I. Here, as elsewhere, the old Chinese scheme of instruction, based on the Chinese classics, has been superseded by the modern system which belongs to

the twentieth century, although China may still be said to be in a transition stage in this respect.

The modern education aims at a progressive training from elementary or primary schools to university, extending from the age of 7 to 24. The first four years in the primary school should be a period of compulsory education carried out in the schools which every locality is called upon to provide.

Schools of higher grade are to be found in the larger provincial towns, and numerous educational establishments are centred in Nanking and Soochow. At Nanking there is a normal school, a college, a school of agriculture, a polytechnic, a middle school, school of law, &c.; at Soochow a normal school, a college, a school of agriculture, and a polytechnic.

In addition to the government schools, a large number of private schools and colleges have been opened in large towns and important centres by local gentry, leading merchants, and foreign missions.

Foreign effort is conspicuous in the neighbourhood of Shanghai, as evidenced by the Anglo-Chinese College, the Medhurst College, the Baptist College, and St. John's University, besides which the famous Roman Catholic University at Sikawei, 5 miles SW. of Shanghai, includes a university, college, and industrial schools, and maintains in addition 50 other schools in and around Shanghai. There is a Protestant university at Nanking and at Soochow.

### HYGIENE

*South Kiangsu.*—Although the ordinary tropical diseases are met with, the country is by no means unhealthy, unless perhaps towards the close of the hot season, during the months of August and September.

Small-pox, however, is very prevalent, and vaccination should be insisted upon.

Cases of cholera occur annually. The disease has not for many years become epidemic.

Enteric fever, dysentery, and malaria are the most common



forms of illness : enteric is frequent in autumn, dysentery and malaria in the summer.

A peculiar disease called ' the sand ' is said to occur in Nanking, its name being derived from little blackish pimples, resembling grains of dust, which cover the skin.

Sunstroke is frequent during the hot weather, during which period no man should be allowed to go out in the sun who is suffering from even mild fever, or who has consumed much intoxicating liquor.

Venereal disease is very prevalent.

The uplands in the west are on the whole more healthy than the delta, but Nanking has a bad sanitary reputation, probably owing to the contamination of its water-supply and to the surrounding marshes.

*North Kiangsu.*—No information is available about diseases in Northern Kiangsu. Malarial fever does not seem to be very prevalent, and the climate is probably healthy.

See also general remarks on this subject in Vol. I.

## CHAPTER IV

### ECONOMIC GEOGRAPHY

Natural Regions (South Kiangsu, Yangtse to Old Yellow River, and Old Yellow River to Shantung)—Forests—Manufactures—Trade.

**KIANGSU** is one of the smallest provinces in China—the area is 38,600 square miles—but is at the same time one of the most densely populated. Its alluvial soils, favourable climate, and facilities for irrigation form the basis of a highly developed system of intensive cultivation, while its position in the low-lands near the mouth of the Yangtse has encouraged the growth of many large industrial and commercial towns. Commanding as it does easy access to the sea on the one hand, and numerous land routes on the other, its seaports include the most important in the country.

#### NATURAL REGIONS

##### *South Kiangsu*

The whole province may be divided into three natural regions. The first lies to the south of the Yangtse and belongs almost entirely to the delta of that river. Except in the vicinity of Nanking in the west, the land is everywhere level. In the south-west lies the T'ai Hu or 'great lake'; it is connected with various parts of the region under consideration by a series of canals, trenches, and ditches, which, taken as a whole, form an important system of navigation and irrigation. The climate is typical of Central China; the summers are long and hot, and the winters are, on the whole, mild. As a result it is frequently possible to obtain three crops per year from the soil.

**Rice** is the chief food plant of the region, and **silk** and **cotton** are the two most important industrial products. Throughout

the whole of this part of the province of Kiangsu there is hardly a village or hamlet round which the mulberry is not grown, and in which the silkworm is not reared. Much of the best silk in China is produced here, and the value of the output might easily be increased by improved methods of sericulture. Cotton is extensively grown on the right bank of the Yangtse, and on the island of Tsungming more than half the land is devoted to it. The lint produced is used in the mills of Shanghai and in Japan. In addition to rice, various other cereals and vegetables are cultivated as food-crops throughout this region.

*From the Yangtse to the old Yellow River Bed*

The second region of Kiangsu lies between the Yangtse and the former bed of the Huang Ho. It is also of alluvial formation and consists of material brought down by the Yangtse, the Huai Ho, and the Huang Ho. The climate is somewhat similar to that of the previous region, but towards the north the characteristics of the Huang Ho basin begin to make themselves felt. Much of the land is covered with water, and the dangers arising from flooding have always acted as a barrier to the economic development of this part of the country. Three subdivisions of the region may be recognized. To the west of the Grand Canal the land stands at a higher elevation than to the east, but much of it is under water, and the district is on the whole a poor one. **Rice** and **wheat** are the principal crops cultivated. To the east of the Canal the land is at a lower level, and in reality consists of polders which have been reclaimed from the sea. The whole of this district, as far east as the wall which protects the reclaimed land from the inroads of the ocean, is intensively cultivated, and is one of the most important rice-producing areas in the Empire. Considerable quantities are exported to other provinces, and, owing to the fertility of the soil, the amount which had to be sent to Peking by way of tribute was large. **Cotton**, though not so important as south of the Yangtse, is grown to some extent, and various cereals are cultivated. The third division lies

between the previous one and the sea and along the northern banks of the Yangtse. The evaporation of salt from sea-water, which is a government monopoly, is the chief pursuit of the people, and is extensively carried on, the product being sent to various parts of the interior.

*From the old Yellow River Bed to Shantung*

The third natural region of Kiangsu is that which lies to the north of the former bed of the Huang Ho. The soil is alluvial, but in many places is covered with deposits of loess. Climate conditions differ from those which prevail farther south, and belong to the basin of the Huang Ho rather than to that of the Yangtse. Hence some of the most characteristic crops of the central and southern parts of Kiangsu disappear, cotton and the mulberry, for example, being no longer cultivated to any extent. The region is divided into two parts by the Grand Canal; in the west the land is higher than in the east, where much of the surface is covered by lakes. In the well-watered parts **rice** is grown, but there has probably been a considerable decrease in its cultivation since the Huang Ho retired to the north of Shantung. Elsewhere, **wheat** and other cereals of the north of China are the staple crops. The **opium poppy** was formerly an important product of the region, and, though its output has greatly declined, it is probably still cultivated to some extent in this somewhat secluded area. Along the coast **salt** is produced in the same way as farther south.

FORESTS

Taken as a whole, the province of Kiangsu is unforested. On the few hills too barren for cultivation there are woods of pine and dwarf oak, which are, however, never allowed to grow to any size. On the other hand, each village and hamlet is surrounded by its own grove of trees, consisting of bamboos (in the south), *gingko*, *ailanthus*, *sterculia*, and others. These provide the wood used for agricultural implements, but timber for building purposes has to be imported.

Some of the trees grown on the hillsides are used for firewood, but in places the people depend for fuel upon the beds of reeds which grow in the vicinity of lakes and rivers.

### MANUFACTURES

The manufacturing industry is of importance mainly in the region lying to the south of the Yangtse, where, as in some other parts of China, it is of a twofold character. The old Chinese industries are carried on, as they have been for centuries, either in small workshops or in the homes of the people; but alongside of these modern manufactures, organized on a western basis, have established themselves, sometimes under European and sometimes under Chinese control. The province of Kiangsu is, above all, noted for its **silk goods**, which are manufactured at various places, but more especially at Nanking and Soochow, where there are government factories. Nanking is particularly skilled in the manufacture of figured satins, and Soochow in that of flowered silks; and, notwithstanding the simplicity of the means of production, the output in both cases is reckoned the best in China. Each of the more important towns engaged in the silk industry has its favourite colour: at Nanking it is black, at Soochow blue, at Pukow Ku green, and at Chinkiang red. At Shanghai numerous modern filatures have been established, and much raw silk is reeled there before being exported to Europe. Similar filatures have also been erected at Nanking, Soochow, Wusih, and other towns, where labour appears to be cheaper than at Shanghai.

The **manufacture of cotton** is also of special importance in this southern region, where raw cotton is so extensively grown. In addition to the domestic industry native factories have for long had a considerable output. Nanking, for example, gave its name to a special fabric for which it was at one time famous; the industry of this town, however, has never quite recovered from the blow dealt it by the T'ai-p'ing rebellion. Modern cotton factories are found mainly at the town of Shanghai, but also at Nanking, Wusih, Taitsang, and Tsungming (in the island

of that name). In these towns a considerable amount of Chinese cotton is spun, but in the weaving sheds yarn from India and Japan is also largely used.

Other industries of this region are concentrated mainly at the ports, partly because raw materials are sent there to be prepared for export, partly because the industries have been introduced from abroad, and partly because the market is at hand: Shanghai has chemical works, breweries, engineering and shipbuilding yards, leather factories, paper-mills, saw-mills, printing establishments, and furniture shops. These, of course, vary in size and importance, but nowhere else in the Yangtse valley is there such a varied collection of modern industries. There are flour-mills at Wusih, and Nanking is engaged in milling rice and making matches.

In the central region of Kiangsu industrial activity is much more limited. The only manufacturing town of importance is Tungchow, on the north bank of the Yangtse, about 100 miles below Chinkiang. Here there are silk and cotton factories, flour-mills, oil-presses, and soap and candle works. In addition, the town is also engaged in a certain amount of iron smelting. Shiherhwei, on the Yangtse, is an important salt dépôt under government control, and Taichow Ku has flour-mills. The other towns of the region carry on local industries to some extent, but are in no way of special importance.

To the north of the old bed of the Huang Ho there is even less industrial activity. Süchowfu was formerly the centre of opium production in the province, and there are cotton-mills and oil-presses at Haichow. Otherwise there is nothing worthy of special notice.

### TRADE

**Shanghai**, which is the principal port not only of the province of Kiangsu but of the whole of China, owes its importance to a variety of considerations. It is situated at the lower end of the fertile Yangtse valley, and is connected with no small part of the canal system in the east of China. Its

facilities for a great port, and the absence of such facilities further to the north, contributed to make it the entrepôt not only for Central but for much of Northern China. In some respects its trade has been handicapped within recent years. The depth of the Huang-p'u, on which it stands, does not allow the larger ocean-going vessels to reach the town, and these are compelled to discharge at Woosung at the confluence of the Huang-p'u and the Yangtse. At the same time the development of the ports of Tsingtau and Dairen in the north have affected adversely some of the entrepôt trade of Shanghai. On the other hand the industrial growth of the town itself, and the economic development of the whole Yangtse basin, have more than compensated for the losses thus sustained.

**Chinkiang** is situated on the southern bank of the Yangtse, at the point at which that river is crossed by the Grand Canal. Hence it was for long a commercial centre of considerable importance. Within recent years, however, it has been losing trade. Goods from the south of Shantung no longer make their way along the Canal, but find their port at Tsingtau or go by rail to Nanking. Similarly the trade of Honan is tapped by the Peking-Hankow railway. The opening as a place of call of Tungchow, lower down the Yangtse and on the opposite bank, has also diverted a certain amount of trade from Chinkiang.

**Nanking**, which is situated on the right bank of the Yangtse opposite Pukow Ku, the terminus of the Tientsin-Pukow railway, has benefited considerably by the opening of that line. Exports from and imports to a wide area, including the interior of Anhwei, part of Kiangsu, and the south of Shantung, formerly made their way to the Grand Canal, along which traffic was slow and charges high. Since the opening of the railway much of the trade has passed through Nanking, where there are harbour facilities for ocean-going vessels.

## CHAPTER V

### SUPPLIES, TRANSPORT, AND ACCOMMODATION <sup>1</sup>

#### SUPPLIES

*Water.*—Over the greater part of North Kiangsu there is no lack of water, and Chinese drink habitually from the canals and rivers. In the extreme NE., however, near the coast, the ground is so impregnated with salt that much of the water is undrinkable. At Sinpuchen, the port of Haichow, it has to be brought from a distance of several miles. The same difficulty in getting water would probably be experienced throughout the coast districts. Streams and rivers are not nearly so plentiful in the northern half of Northern Kiangsu as in the southern, and the former is therefore much more dependent on wells.

All drinking water should be boiled.

In South Kiangsu streams are abundant everywhere in the east, as also are ponds in the north-west, but water from either source would always require purification before being used for drinking. Wells are found to a small extent, but only in the upland country.

*Fuel.*—Villages in North Kiangsu are surrounded by trees and scattered clumps. This timber is too scarce and too valuable to be used as firewood by the inhabitants, but in case of necessity ample supplies could be obtained for the use of troops.

Reeds appear to be the common fuel of the country, and *kaoliang* stalks are also used in the north. Charcoal is to be had in cities and market towns.

In South Kiangsu *coal* is always obtainable in fairly large quantities at Shanghai, Chinkiang, and Nanking; at Soochow,

<sup>1</sup> *Authorities* : Mainly the Military Reports on the Province of Kiangsu.



Wusih, and other termini of steam-launch routes it is available in comparatively small quantities. Charcoal and kerosene oil in fair quantities are obtainable in all cities and market towns. The Asiatic Petroleum Company have large oil tanks at Ho-hua-t'ang near Chinkiang, at Soochow, and Shanghai. Elsewhere *wood* is the only fuel, and together with dung is universally used by the country people. There is no lack of it anywhere for a small force, nor for a large force if not long stationary; although in the case of a continued stay by the latter in one locality the provision of fuel would probably become difficult.

*Food.*—The part of North Kiangsu south of the latitude of Tsingkiangpu, especially the Hsia-ho district, is a rich and populous delta, and the main food supplies, rice and wheat, are plentiful. In the north the country is less thickly populated and not so rich.

Some details about supplies obtainable in the various localities are given in the Gazetteer.

As regards the main articles of food:

*Bread* in the European form is not to be found anywhere in North Kiangsu. Over a great part of the province different kinds of Chinese bread, made of wheat or maize flour, can be obtained, especially in the north. This bread, though heavy, is eatable. In the Hsia-ho district it is not always to be procured, as rice is here more generally eaten. Limited quantities of bread made of wheaten flour could be procured in South Kiangsu in places where there are European communities.

*Flour.*—As wheat is extensively grown, flour is obtainable in fair quantities in all cities and market towns. There are flour-mills at Shanghai, Sinpuchen, Tsingkiangpu, Tungchow, Taichow Ku, Kaoyuchow, and Chinkiang. Together with millet flour wheaten flour is used to a small extent by the natives of South Kiangsu, and the bread so made, especially if baked under European supervision and leavened, forms a palatable and fairly efficient substitute for the real article.

*Meat.*—Almost the only meat eaten by the Chinese is pork. This can be procured in considerable quantities in all cities

and market towns; but the pigs are foul feeders, and it is doubtful whether their flesh is fit for food.

Buffaloes in the marshy parts, and cattle in the dry, are fairly plentiful. They are used by the Chinese for agricultural purposes, never for food. They would, however, be available as rations for troops. Sheep and goats are not plentiful enough to form an ordinary article of food.

*Fish* is a staple article of food in some parts. They abound in the creeks and rivers, and are obtainable in large quantities in all cities and market towns situated on waterways. They are apparently of the perch or carp type, and vary in size from 1 to 5 lb. Until sold they are kept alive in water. Salt fish is also easily obtainable.

In South Kiangsu beef and mutton are occasionally obtainable, but goats are found in some quantity and would often provide meat for small moving columns. In the hill and lake country west of Soochow mutton would be procurable in large quantities: the same remark applies to beef in the cattle-producing centres of the west, viz. Nanking, Chinkiang, Tanyang, and Liyanghsien.

*Poultry*, in the form of fowls, geese, and ducks, are fairly plentiful in South Kiangsu. Large flocks of ducks are seen feeding all over the delta country.

*Rice* is largely grown in the southern parts of North Kiangsu, and forms the staple food of the population of the Hsia-ho district, and of South Kiangsu.

*Kaoliang*, *millet*, and *maize* are grown in fair quantities in the northern parts.

*Vegetables* are obtainable nearly everywhere. They comprise cabbage, spinach, beans, peas, sweet potatoes, turnips, and carrots. Carrots are specially plentiful in the north, and form one of the principal articles of food of the poorer classes in winter.

*Salt* is produced in large quantities in the districts near the sea, and is obtainable everywhere.

*Sugar* is to be had in all cities and market towns. It is of the moist white variety.

*Tea.*—The tea of the country is plentiful everywhere. It is imported largely from other provinces, and, as commonly used by the people, is of poor quality.

*Milk* is not drunk by the Chinese, and is not obtainable in North Kiangsu. A little tinned milk might occasionally be bought in the larger towns. Fair quantities of fresh milk can be obtained in Shanghai. Elsewhere a very limited supply can be had from goats in South Kiangsu.

*Oil* for cooking is chiefly either ground nut or bean oil. One or the other is everywhere procurable.

*Ghi* is not obtainable anywhere, nor is any efficient substitute for it procurable locally.

*Forage.*—Animals are fed on *kaoliang* (durra or Guinea corn), maize, beans, and chopped straw. In the north, where they are much used, forage is to be had in considerable quantities, but this is not the case in the country south of the latitude of Tsingkiangpu.

In the event of a mixed force operating in South Kiangsu, the local supply of forage for animals would probably present greater difficulties than the supply of anything else required by the troops. This is partly because imported horses would have to accustom themselves to a strange diet, and partly because, owing to South Kiangsu not being a horse country, the feeding of draught and transport animals is not understood, and suitable foods are not easy to obtain.

The chief articles used by the people for this purpose are beans, unhusked rice, and coarse grass; but not infrequently transport-donkeys are turned out into the country to find their own food as best they may.

As regards the number of troops that could be supported in the country in time of war, it may be said that in addition to some 70,000 rebels in Nanking, there were upwards of 20,000 troops—foreigners, levies, and rebels—living practically on the country for about three years during the T'ai-p'ing rebellion. These troops were almost entirely Chinese, and therefore rice-eaters; but in view of the excellent water-communications and the probability of Shanghai being the

base, it is estimated that the largest European force likely to be called upon to operate in South Kiangsu could live there indefinitely without difficulty as regards its food supply.

### TRANSPORT

*Wheeled Transport.*—Wheeled transport is not used in South Kiangsu, and the roads and bridges are quite unfitted for it. In North Kiangsu carts are used, but only in the part of the province north of the latitude of Tsingkiangpu. Some few exist in the part south of this; but they are only used for agricultural purposes, and the same might be said of the majority of those in the first-named district. The carts are of three kinds:

(1) The Peking cart (*chiao-ch'ê*) is used on the main Peking road, from Tsingkiangpu northwards; on the Peking-Nanking road, passing through Süchowfu; to some extent on the Tsingkiangpu-Haichow road; and probably elsewhere. These carts are drawn by two mules, and can travel  $3\frac{1}{2}$  miles an hour, even on long stages. They can carry from 900 to 1,000 lb., but owing to the small amount of storage space so great a weight of ordinary goods can rarely be accommodated. The price of a cart at Tsingkiangpu is about 60 dols., and its rate of hire about 1 dol. 75 cts. a day. A few of these carts can be hired at Tsingkiangpu and Süchowfu, but in most places they are so little used as to be unobtainable.

(2) The four-wheeled farm-cart of Anhwei is used to the NW. of Tsingkiangpu, and in the country to the south and west of it. It is a primitive vehicle with four solid wheels, drawn by three bullocks, with sometimes a donkey as well. It is used chiefly for agricultural purposes.

(3) The two-wheeled Shantung cart is used in the country east of that part of the Grand Canal which lies NW. of Tsingkiangpu. It is a superior vehicle to the four-wheeled cart, and is used both for agricultural and transport purposes. It is drawn by two bullocks or buffaloes, with sometimes a donkey in addition. A team frequently seen is a bullock in

the shafts and a buffalo and donkey side by side as leaders. These carts are said to be able to carry 2,500 lb. They are largely used for transport at Tsingkow, where they ply between the town and the port of Hsia-k'ou. At Tsingkow about 200 could be obtained; but they cannot move either along the road leading south to Haichow, or along that leading north to Jihchaohsien. That to Ichowfu, to the NW., is, however, practicable for them. Elsewhere these carts do not seem to be obtainable in any large quantity, but a few are always to be found in all the towns in this part of the province.

*Pack Animals.*—Pack mules and donkeys are used in the extreme north, but only to a limited extent, the latter frequently without pack-saddles. In South Kiangsu they should not be used in the delta. They are only used by the Chinese in the country west of Chinkiang and Tanyang, and then only to a limited extent. Even in this district, no pack-saddles suitable for army transport exist. In the delta country the roads are not made for use by pack transport. On the smaller roads some of the bridges would scarcely be equal to the weight, whilst in others the hand-rail would catch the load. The provision of fodder for the animals would also be difficult, since horses are not kept in this part of the country, and grazing-ground would usually be very difficult to find.

*Wheelbarrows.*—Wheelbarrows are the best means of land transport all over Kiangsu, though in certain districts, such as the Hsia-ho, they have been superseded by boats. They are the principal means of transport in the extreme north, and near the Yangtse they are very numerous. They are not, however, much used in the delta country, but there are few if any roads on which they could not move. Bridges would probably be found the chief difficulty. On some of the smaller roads an occasional bridge might have to be strengthened, whilst the 'camel-back' bridges over large creeks might cause some delay, as the wheelbarrow men would require assistance to negotiate the steep approaches.

The average load for a wheelbarrow, if required to march every day and to keep up with infantry, would be from 120 to 150 lb., but if barrow coolies are allowed to move at their own pace the load may be increased up to 350 lb. Strong winds and bad roads, especially bad paved roads such as that between Tanyang and Nanking, affect the speed of barrow transport very considerably.

Wheelbarrows are open to the objection that only men used to the work have the skill and the strength in particular muscles required to wheel them. A coolie not used to the work, however strong he might be, would scarcely get through one day's march. If the local Chinese barrow-men could not be obtained, it would be a risky experiment to import coolies from elsewhere to wheel the barrows. On the other hand, if regular barrow-men are available, wheelbarrows are the most satisfactory form of land transport.

In Shanghai there were, in 1914, 6,938 public wheelbarrows registered by the Municipal Council of the International Settlement. This does not include a considerable number registered by the French Municipality, and others outside the Foreign Settlements.

As a rough guide it is estimated that in those districts where barrows are the ordinary means of transport the numbers available would be approximately as follows :

In walled cities	.	.	.	200 to 1,000
In market towns	.	.	.	20 „ 100
In villages	.	.	.	5 „ 50

*Coolies* are very little used as a means of transport in North Kiangsu. On the other hand in South Kiangsu they are much used, the universal means of carrying loads being by bamboo poles on the shoulder. These poles are of two kinds, a split bamboo used by one man with half the load suspended at each end, and a solid bamboo used by two men with the load suspended between them at the centre. To maintain the marching pace of infantry the loads in each case may be 60 lb. and 120 lb. respectively.

These methods of carrying loads are much used when unloading goods from ships or boats, and when carrying things about the streets of towns. As wheelbarrows are restricted to a few districts, coolies with carrying sticks form indeed the sole means of transport in the greater part of South Kiangsu. But boat transport is so extensively used that there is not, as in some parts of China, a numerous class of coolies accustomed to carry loads for long distances.

*River Transport.*—River steamers run regularly on the Yangtse, stopping at Chinkiang, and sometimes at T'ien-shêng-chiang the port of Tungchow. See list of Yangtse River steamers in Appendix III, Table 1.

*Launches and Boats in North Kiangsu.*—Chinkiang is the chief centre for all launches with the exception of those on the Li Ho and its tributaries. The following companies at Chinkiang had launches plying mainly in North Kiangsu in February, 1908 :

- (1) China Merchants' Steam Navigation Company or Chao Shang Chü had 8 launches, plying to and from Tsingkiangpu, Hsiao-ho-k'ou, and Soochow.
- (2) Tai Sheng Chong (Japanese) had 9 launches plying to and from Tsingkiangpu, Yangchow, Siennümiaio, and Soochow.
- (3) Nisshin Kisen Kaisha (Japanese) had 7 launches plying to and from Tsingkiangpu, Yangchow, and Soochow.
- (4) Ta Tong (Chinese) had 2 launches plying to and from Siennümiaio and Yangchow.
- (5) Li Chi (Chinese) had 1 launch plying to and from Hsiao-ho-k'ou.
- (6) Lu Ping Chi (Chinese) had 1 launch plying to and from Siennümiaio.
- (7) Mei Tai (Chinese) had 1 launch plying to and from Liuho Ku.

Besides the above there were on the Li Ho and its tributaries 8 launches of the Ta Ta (Chinese) Company, 4 running between Siennümiaio and Tungchow, 3 between Taichow Ku and Yencheng Ku, and 1 between Tungchow and Lüsze.

The average draught of the launches at Chinkiang is 4 ft., but some of the smaller ones draw no more than 2 ft. The launches on the Li Ho have an average of from 3 to 3½ ft.

The passenger accommodation of the launches is comparatively small, but they are used for towing passenger-boats: see below.

Chinkiang is the place where the largest number of boats could be obtained, the average number there being about a thousand. They are also very numerous all over the waterways, especially in the south part of the province: see *Itineraries and Gazetteer*. Boats differ considerably in size and draught according to the waterways on which they ply.

The accompanying list (p. 56), obtained from a Chinese boatman, was published in the *Military Report on North Kiangsu, 1911*. It gives an idea of the different kinds of boats in use at Chinkiang with Chinese names, which, however, will be found to vary in different localities.

*Boats on the Grand Canal.*—On the Grand Canal between Chinkiang and Tsingkiangpu most of the boats are modifications of the Yen-ch'uan or salt-boat, or of the Nan-wan-tzū or passenger-boat. The Yen-ch'uan is very massively built, of squat appearance, with one to three masts, and a low, flat-topped deck-house occupying scarcely one-third of the total length of deck.

Its dimensions are:

Length from 30 to 85 ft., and width up to 23 ft.; draught empty, from 1 to 5 ft.: laden, 3 to 9 ft.

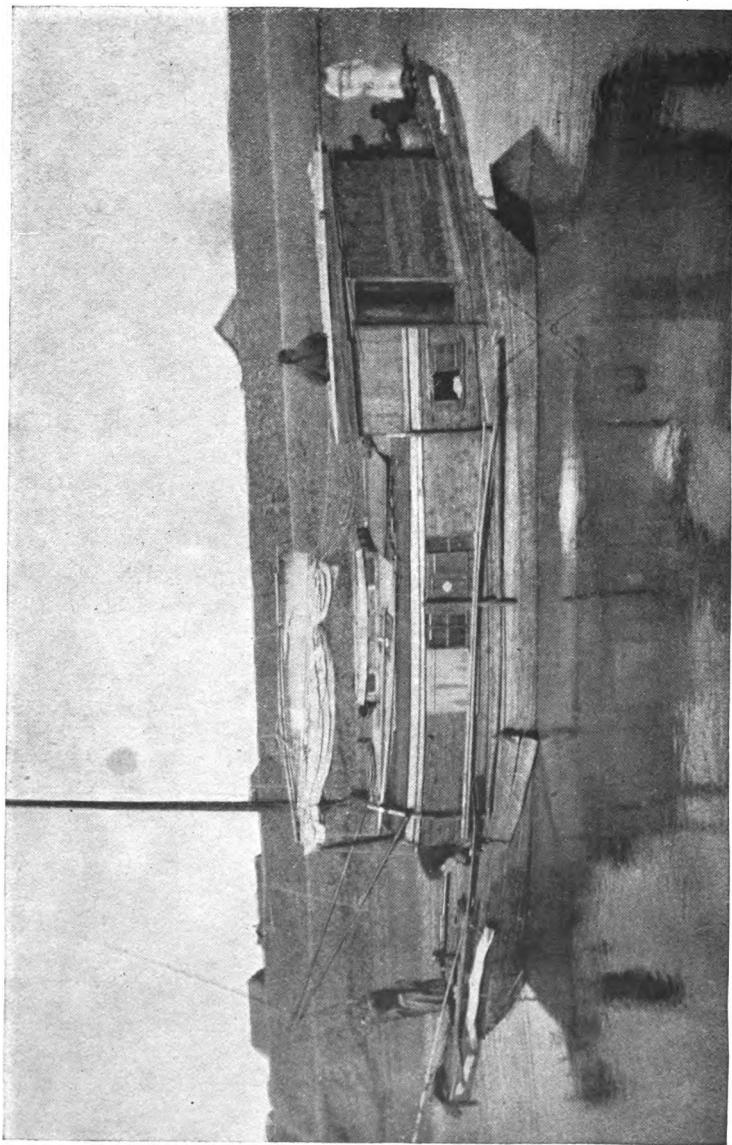
The Nan-wan-tzū (see table) has a crew of four or five men; it has a large deck-house, usually with two or more cabins.

*Boats in the Hsia-ho District.*—In the Hsia-ho district, salt and passenger-boats are those most frequently seen. The salt boats are one-masted, 65 and 70 ft. long by 10 ft. wide, with a small deck-house aft and a crew of three men. They carry 400 piculs, i. e. 28 tons, a picul of salt being 120 catties or 160 lb., thus differing from the ordinary picul which is 100 catties or 133 lb. With this load they draw 3½ to 5 ft.



<i>Chinese name of boat.</i>	<i>Length in feet.</i>	<i>Width in feet.</i>	<i>Draught empty in feet.</i>	<i>Draught loaded in feet.</i>	<i>Burden in piculs.</i>	<i>Where used.</i>	<i>Port of origin.</i>
Ya-p'i-ku . . .	130	18	3	9	2,000 (120 tons)	Yangtse.	Shanghai.
Ta-chiang-ch'uan . .	135	20	2	9	2,000 to 3,000 (120 to 180 tons)	Yangtse.	Hupei.
Tiao-ch'uan . . .	90	14	2½	8	1,200 (72 tons)	Yangtse.	Hupei.
Ya-shao-tzü . . .	40 to 70	6 to 8	½ to 1	2 to 3½	200 to 500 (12 to 30 tons)	Yangtse.	Hupei. Much used as passenger-boats.
Liang-hua-tzü . . .	40 to 80	8 to 13	¾ to 1	2½ to 3½	300 to 1,300 (18 to 78 tons)	Grand Canal.	
Pien-liang-ch'uan . .	85	14	¾	2	700 (42 tons)	Grand Canal and Yellow River.	
Nan - wan - tzü, also called Huang-k'ua-tzü or Shao-pai-hua-tzü .	40 to 60	7 or 8	1	3½	650 (39 tons)	Grand Canal. (These are used chiefly as passenger-boats.)	
Shao-pai-tou-tzü . . .	40	8	1	6	400 (24 tons)	Grand Canal.	
Mang-tzü . . .	60 to 70	12 to 14	1	3½ to 4	600 to 800 (36 to 48 tons)	Huai Ho.	
Tui-ting-hua-tzü . . .	80	12	½	2	450 (27 tons)	Huai Ho.	
Kuan-po-tzü . . .	40 to 60	8 to 12	¾ to 1	3 to 4	300 to 800 (18 to 48 tons)	Hsia Ho district.	
Yü-ying-tzü . . .	40	6	½	2	200 to 300 (12 to 18 tons)	Hsia Ho district.	





A HOUSE-BOAT

The passenger-boats here average 35 to 40 ft. in length and 7 to 8 ft. in width, with a deck-house 6 ft. high by 16 ft. long. With passengers they draw not much more than 1 ft. ; with cargo  $2\frac{1}{2}$  ft.

*Boats on the Yen Ho* (No. 1).—On the Yen Ho (No. 1) boats may be divided into two classes—the Yen-ch'uan, or salt-boats, and the Hei-k'ua-tzū, or passenger-boats. The former vary in size, carrying from 200 (12 tons) to 1,000 (60 tons) piculs, and drawing when laden  $2\frac{1}{2}$  to 5 ft. The latter are about 35 ft. long by 10 ft. wide, and would give sleeping accommodation under cover to eight men besides a crew of three.

*Steam-launches and Boats in South Kiangsu*.—The steam-launches used on the inland waterways of South Kiangsu range from 40 ft. to 60 ft. in length, with a draught of  $3\frac{1}{2}$  ft. to 5 ft., and are capable of a speed of 11 miles an hour. A full tow of laden boats reduce their speed by about one-half, and the strongest tides may make a difference of 3 miles an hour either way.

The number of boats that can be towed is limited by the windings of the creeks ; ordinarily the maximum is 5 of the largest craft, giving a total tow-length of about 140 yds. The type of native boats used varies from a small *sampan* propelled by one man to the large passenger-boat towed by a launch. All boats have flat bottoms and square bows.

With the exception of the largest native passenger and houseboats, which are towed by launch only, the ordinary means of progression are towing by launch, sailing, tracking, poling, and *yuloing*.

A *yulo* is a species of long sweep or scull, with the last few feet of the handle set at an angle of about  $150^\circ$  with the rest, and worked over the side or stern of the boat. The boat is propelled by a motion similar to that of sculling a dinghy, with one oar over the stern. The *yulo* works on an iron pivot, the inboard end of the handle being held down by a rope fastened to the boat.

In ordinary circumstances the average speed when tracking or *yuloing* is about 2 miles an hour. Wind, tide, and current

affect both considerably ; progress against the current is often impossible with a moderate breeze, whilst before the wind the large boats of the barge type can attain, under sail, a speed of 9 miles an hour.

When conditions of wind and tide are adverse, tracking is usually resorted to. Along the Grand Canal and some other waterways there are regular towpaths, all side creeks being bridged at their mouths. But in many cases there is no tow-path, and progress is made extremely slow by numerous unbridged side-creeks, entailing constant return of the trackers to the boat.

The following varieties of native boats are specially suited to military transport requirements ; the estimated accommodation is for an intermittent journey only, and includes light baggage :

(a) The *Kung-ssü-ch'uan*(zên) (passenger-boat) : approximately in two sizes, 40 ft. by 8 ft., and 80 ft. by 14 ft., both drawing about  $2\frac{1}{2}$  ft. of water laden, and accommodating 60 and 120 men respectively.

(b) The *Wu-hsi-k'ua* (house-boat) : ranging in size from 30 ft. by 7 ft. to 65 ft. by 15 ft., drawing from  $1\frac{1}{2}$  ft. to  $2\frac{1}{2}$  ft. laden, with a crew of 3 to 8, and accommodating 25 to 60 men.

(c) The *Hsi-tang* (open or partly decked barge or lighter) : ranging in size from 30 ft. by 6 ft. to 80 ft. by 15 ft., drawing from  $1\frac{1}{2}$  ft. to 4 ft. laden, with a crew of 3 to 8, and accommodating 20 to 80 men.

Type (c) is eminently suited for the transport of artillery, animals, and stores ; its cargo capacity is approximately half a ton per foot of length.

So far as launches and boats are concerned, arrangements for water transport inland from Shanghai would be facilitated owing to its being the terminus of a number of inland transport companies' lines.

Two of these companies were Japanese in 1907, the remainder Chinese. Their offices were situated in North Soochow Road, between the Honan and Shansi Road bridges over the Soochow creek.

Conditions permitting, transport arrangements could be made either through the consulate, through Messrs. Jardine, Matheson and Co., or through Messrs. Butterfield and Swire.

The need for quick action in regard to the requisition of transport should be noted :

(a) In the event of local hostility, in order to prevent its removal.

(b) In the event of an international expedition, in order to forestall its acquisition by other nations.

The number of creek-launches and of large native passenger-boats, type (a), which are available in Shanghai, between the hours of 7 a.m. and 5 p.m., is on an average 10 and 20 respectively. These are the property of the above-mentioned companies, and are moored opposite their offices in the Soochow creek ; they do not include a large number of foreign and native owned launches plying on the Huang-p'u.

On January 1, 1907, there were 325<sup>1</sup> launches registered in Shanghai, of which about 250 were between 1 and 25 tons and would be useful for inland waterway navigation. The remainder range up to 900 tons and are used exclusively for Yangtse and Huang-p'u River work. Probably not more than 100 out of the above 250 would actually be available in Shanghai on any given day. Of the 250 launches under 25 tons about 80 would draw less than 3½ ft. of water.

The following are the firms and transport companies owning 3 or more launches, and the number registered by each :

1.	Messrs. Jardine, Matheson and Co.	.	.	6
2.	Shanghai Dock and Engineering Co.	.	.	3
3.	China Merchants' Inland Steam-launch Co.	.	.	17
4.	Tung Yu	.	.	14
5.	T'ai Hsing Ch'ang	.	.	11
6.	Chun Chi	.	.	9
7.	Pingsiang Coal Mining Co.	.	.	6
8.	Heng Ch'ang	.	.	6

<sup>1</sup> The figure in 1914 was 336.

9.	Heng Mou	.	.	.	.	.	.	.	5
10.	Shun Chi	.	.	.	.	.	.	.	5
11.	Hsiang An	.	.	.	.	.	.	.	4
12.	Li Yi	.	.	.	.	.	.	.	4
13.	Kung Hsing	.	.	.	.	.	.	.	4
14.	T'ai T'ou	.	.	.	.	.	.	.	4
15.	Hsiang Chi	.	.	.	.	.	.	.	3
16.	Hung T'ai	.	.	.	.	.	.	.	3
17.	I Ch'ang	.	.	.	.	.	.	.	3
18.	Ta Ta	.	.	.	.	.	.	.	3

Nos. 1 and 2 are British, Nos. 5 and 14 Japanese, and the remainder Chinese.

In addition to the foregoing a certain number of launches and passenger-boats would also be procurable at Chinkiang, Tanyang, Kiangyin, Changshu Ku, Changchow Ku, Wusih, Soochow, Taitang, Hangchow, and Pinghu.

All these places are termini of regularly navigated routes ; the head or branch offices of one or more steam-launch companies are situated in each. In 1905 there were 33 launches registered at Chinkiang and 9 at Soochow.

The numbers of boats of types (b) and (c) available in Shanghai and other cities are considerable, but they vary largely owing to the exigencies of traffic and trade. As a very rough guide it is estimated that from 10 to 100 of each kind would usually be available in the neighbourhood of all important cities situated on water highways. In Shanghai at least 70 of the type (b) and 100 of the type (c) would be obtainable.

In addition to native boats of type (c) there is a large number of foreign-owned lighters in Shanghai. The principal firm is Messrs. Hopkins, Dunn, and Co., owning about 130 steel and wooden lighters of all descriptions, and having offices at No. 7 Quai du Yang-king-pang in the French Concession.

*Maritime Transport.*—See lists of principal steamers plying to Shanghai and the coast ports in Appendix III, Table 2. All the sea-going coasting steamers are able to navigate the Huang-p'u to near Sungkiangfu and the Yangtse at least as

far as Nanking at all times of the year. Under ordinary circumstances the average number of British coasting and river steamers in Shanghai and Woosung harbours is about 15, of Chinese steamers about 10, and of steamers of other nationalities about 15.

#### ACCOMMODATION

*Walled Cities.*—As a rule a large proportion of the ground inside the walls is unbuilt on, being either under cultivation or used as graveyards. In some cities considerable areas of waste land exist, covered with ruins and débris, still showing evidences of occupation by the T'ai-p'ing rebels.

The streets are narrow, dark, and paved with flagstones and cobbles. Buildings are almost entirely of brick and stone with tiled roofs. Generally speaking, those in the denser quarters are filthily dirty, insanitary, and, in their normal state, quite unfitted for other than temporary occupation by European troops. In the less dense parts of the cities, however, are often to be found large detached or semi-detached private dwelling-houses, godowns, or temples, which, being airy, open, and more sanitary, would furnish reasonably good permanent accommodation.

The extra-mural suburbs of cities sometimes cover more ground than the walled enclosure itself. They lie chiefly along the water approaches to the main gates, and to a less extent round the foot of the wall on both sides of the moat. By reason of their greater accessibility from the outside, it is in these suburbs, very often, that the main business quarter of the city is situated. At such points the waterway, naturally constricted by overhanging houses, moored boats, and floating timber rafts, is always greatly congested by traffic.

*Market Towns* vary in size, the number of houses ranging from 51 up to 5,000 or more ; they differ from large villages only in the fact that they have a permanent market. The houses are generally in a ramshackle condition, very dirty, and would offer poor permanent accommodation for European troops. The best accommodation for troops would be afforded



by temples, of which there are usually one or more in each town. Towards the west of South Kiangsu market towns are more substantially constructed and offer somewhat better accommodation.

Practically all market towns have one or more inns. These have no heating arrangements, often consist of only one common room, and from the European point of view, are generally inferior to the inns of the northern provinces.

*Villages* range in size from those of a few houses up to those of several hundred. They are very numerous in the delta country, and are invariably situated on the banks of creeks, and are usually surrounded by trees. Villages are generally connected by footpaths which are usually passable for barrow or pedestrian traffic only. They seldom have inns, and casual accommodation is usually difficult to obtain.

*Camping-grounds*.—In the district north of the latitude of Tsingkiangpu there would be no difficulty in finding ample camping-grounds in winter ; but in a wet summer large tracts of country are sometimes under water from floods. In the more southern part, especially the Hsia-ho district, there is much wet country, and camping-grounds would probably be difficult to find in summer.

## CHAPTER VI

### PORTS, ROADS, AND INLAND WATERWAYS

Ports and Landing-places on the Coast—Roads—Bridges—Ferries—  
Inland Waterways.

#### PORTS

THE description of the northern end of the Kiangsu coast (given in the *China Sea Pilot* (1912), vol. v, ch. viii) shows that junks of about 8 ft. draught can reach the village of **Chū-mên-k'ou** at high tide. This village (latitude about 34°56' N.) lies near the entrance of a river, 4½ miles NNW. of the island of Nai-nai-shan. At high water the entrance of the river is marked by breakers on each side. The village is frequented by fishing and trading junks. Near the sea the land is flat and of inferior quality, but half a mile inland it bears good crops of wheat and barley.

Five miles WSW. of Nai-nai-shan is the creek which leads to **Hsia-k'ou**, the port of Tsingkow, which can be entered by sea-going junks of 9 ft. draught at high water.

More importance attaches to the town of **Sinpuchen** (Hsin-p'u), the port of Haichow (see *Gazetteer*), which lies about 10 miles up the Haichow Ho and 17 miles ESE. from Hsia-k'ou. A shoal or bar extends about 5 miles north-eastward from the entrance of the Haichow Ho, and it can be crossed by junks of 8 ft. draught at high water. The port of Sinpuchen is frequented at all seasons by large numbers of native craft. There is no sheltered anchorage for a vessel of 15 ft. draught or over in this part of the coast (i.e. the bay north-westward of the Yün-t'ai Shan or Yu-chou promontory), but anchorage has been obtained by a steam-vessel in 3½ fathoms water, soft mud bottom, with Nai-nai-shan bearing 204° true, distant 3 miles.

The coast from Yün-t'ai Shan to the entrance of the Yangtse, a distance of about 240 miles to Sha-wei-shan Island, is low and intersected by numerous streams. The whole of this coast is fronted by extensive flats and shoal banks, projecting in some places about 65 miles from the land, and rendering approach dangerous. No survey of the banks had been made up to 1912 (see the *China Sea Pilot*, vol. v, p. 406); but there are channels used by junks, which are able to reach **Fowning** by the Shê-yang Ho, and **Yencheng Ku** by the Yang-k'ou Ho (see *Gazetteer*, and Routes 25 and 26).

At the Old Yellow River mouth are the **Great Sands** (Ta-sha), which reach out for some 50 miles and are dangerous even for junk traffic. The most important landing-places in Kiangsu are in the Yangtse River and at its mouth. They are discussed in the article on the Yangtse.

From the mouth of the Yangtse to Chapu the coast-line is very flat, the tide being excluded by a sea-wall. Owing to the mud and sand-banks it is in most places impossible for ships to approach the beach. Although in good weather it would be possible to land almost anywhere, convenient landing-places are extremely rare.

**Chapu** was once the port of Hangchow, but now is little more than a fishing village. The anchorage is sheltered from ENE., through N., to SSW., but the tides rise and fall 25 ft., and the rate of the tidal stream is 5 knots at springs.

In Hangchow Bay the tidal bore renders navigation at the western end impossible for boats drawing over 3 ft.

British troops landed at Chapu in 1842, but it was then a flourishing seaport with a considerable garrison, and it was with a view to dealing a blow at the Manchu troops there that the British commander attacked the place. He did not attempt an advance inland, but, after defeating the enemy and capturing the town, soon afterwards re-embarked his force and went by sea to Woosung and Shanghai.

The distance from Chapu to Kashing is 23 miles, and that to Hangchow, via Kashing, is 81 miles.

## ROADS

In **South Kiangsu** there are no roads passable for wheeled artillery except in the immediate vicinity of Shanghai, Nanking, and Chinkiang. The top of the sea-wall which extends along the coast and along the south bank of the Yangtse is used as a road, and in places is wide enough to take wheeled traffic, but, except near Woosung, there is no access from it to any other carriage-road. A more detailed account of the sea-walls will be found in Routes 7 E and 8 B.

The average width of the roads is from 2 to 4 ft., and though the principal ones are passable for horses or wheelbarrows, in most parts of the province they are used merely as footpaths. Pack-animals are seldom encountered east of Tanyang, and throughout the province a mounted man is rarely seen. In the delta country it is only within a radius of 20 miles from Shanghai that wheelbarrows are employed, but farther west, in the Changchow Ku district, they are fairly common, and still farther west, between Chinkiang and Nanking, they form the ordinary means of transport. Every hamlet is connected by a road or path with the neighbouring villages or market towns, but the tracks as a rule follow a devious route, winding round the edges of fields, and making détours in order to find good points for crossing the creeks.

In the delta country, which includes by far the greater portion of South Kiangsu, only short-distance traffic makes use of the roads; long journeys are more conveniently made by water, and it would be best to adhere to the custom of the country, and to use water transport wherever possible.

West of Changchow Ku waterways become rarer, and west of a line drawn from Chinkiang to Tanyang they almost cease to exist, with the result that roads form the chief means of communication between places other than those situated on the Yangtse.

For the most part the roads are of earth, hard in dry weather, but turning at once into mud when rain falls. They soon dry again when the rain ceases. Some of the main roads

are paved with flat stones, which make the track more passable, but are frequently slippery.

In the matter of roads **North Kiangsu** may be divided into two parts. In that south of Tsingkiangpu there are practically no cart-roads, but most of such roads as exist are passable for wheelbarrows. Farm-carts exist in parts of the Taichow district, but are not used as a means of through transport. North of Tsingkiangpu there are cart-roads; but even here carts are not used to any great extent, except for farming purposes, and wheelbarrows still remain the common form of transport.

The wheelbarrow roads are usually from 2 to 6 ft. wide. On some of them infantry could march in file, but single file would often be necessary. The main cart-roads in the north are from 15 to 20 ft. wide, but some of the smaller ones are 6 ft. or under.

The roads of North Kiangsu, as elsewhere in China, are unmetalled, so that after rain they become very heavy, and are sometimes impassable for carts or wheelbarrows for several days.

North Kiangsu is on the whole well supplied with roads, there being no large mountain ranges to form obstacles to communication. An exception, however, must be made in the case of the Hsia-ho district (roughly enclosed in the quadrilateral Hwaiianfu, Fowning, Yangchow, Haian), a great part of which is so much cut up by waterways that all transport is done by boat, and wheelbarrow roads are very few.

The main road from Peking to Chinkiang runs from Ichowfu in Shantung to Tsingkiangpu. From here onwards the journey is usually continued by boat. Another main road—that from Peking to Nanking—crosses the NW. corner of the province from north to south, passing through Süchowfu. A road leads along the Fan-kung-ti, the great embankment constructed in the eleventh century as a protection against the sea. This extends from near the mouth of the Yangtse to the east of Tungchow northwards through Tungtaihsien and Yencheng Ku to Fowning. It is much used by wheelbarrows, but is not passable for carts (see Route 21 A).

## BRIDGES

In the delta country, as well as in the Hsia-ho district, creeks and ditches have constantly to be crossed, and bridges are consequently very numerous. They fall under the following principal types :

(A) Wooden trestle bridge with plank roadway, passable for wheelbarrows ; generally of 3, 5, or 7 spans, but sometimes of as many as 10 or 12 spans. This is the commonest type of bridge. When constructed over a navigable waterway, it is often made with the centre span removable, to allow the passage of boats. Trestle bridges of bamboo are usually unstable and intended for foot-passengers only.

(B) Stone arch bridge (less common than wooden bridges except in the north-west of the province, and where stone can be obtained locally) ; one, three, five, or more semi-circular arches, with parapet ; crown, 1-3 ft. thick ; arch as a rule is strongly constructed with the stones arranged to break joint.

(C) Single-span wooden bridge, with stone abutments. Roadway of earth or tiles, on cross planks carried on round or square beams 6-15 inches in depth, provided with hand-rails.

(D) Single-span stone-slab bridge, with stone abutments. Roadway of one or more stone slabs which may be as much as 24 ft. long, 2 ft. wide, and 1 ft. thick.

(E) Stone-slab bridge of three or five spans. It may or may not have abutments, but has stone trestles, each with two legs and transom at top, measuring 1 ft. by 1 ft.

(F) Bridges of boats are used for crossing the Grand Canal in North Kiangsu. The roadway is constructed of planks so arranged that those in the centre can be removed for the passage of boats. A modification of this type is used on the northern part of the Yen Ho (No. 1), where an earth embankment is built out into the canal from each side for a certain distance, the channel in the middle being spanned by one boat, which can be removed to permit of passage up or down.

On the road from Tsingkiangpu to Haichow, in winter

when the streams are not navigable, they are bridged by an earth embankment stretching right across. In summer, when navigation begins, these embankments are removed and a ferry replaces the bridge.

Nearly all bridges are constructed to take wheelbarrows, but many of the wooden bridges could hardly be considered safe for the passage of animals. Thus type D is sometimes too narrow to allow of the passage of horses which are not familiar with such bridges, and the same applies to type A, which is only passable when the bridge is in good order. In the north, on the main roads, the bridges are practicable for ordinary cart traffic.

All stone-arch bridges are exceedingly well constructed. The most common form is the single-arch bridge of type B, in which there are slight variations: it is popularly called the 'camel-back'. Nearly all bridges have steep approaches, which in the majority of cases take the form of stone steps.

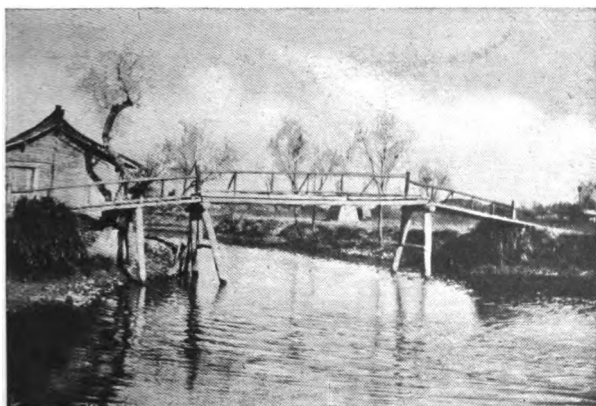
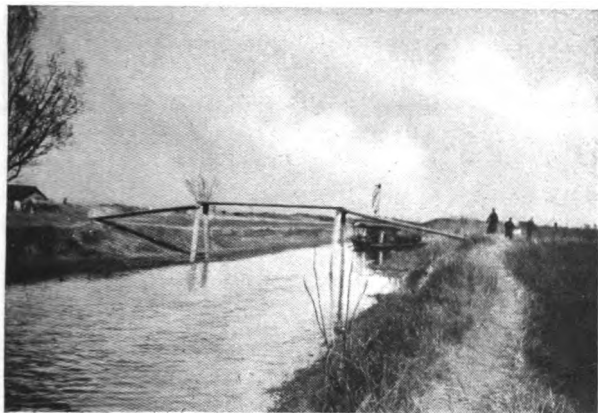
The width of the passage through a bridge may vary considerably according to the height of the water, owing either to the slope of the abutments, to projecting foundations, or to the completion below water of the circle of a bridge consisting, apparently, of a semicircular arch.

All important bridges, and many of the smaller ones, have their names cut into the stone at the centre of the span, but these names are not always those by which the bridges are known to the inhabitants. For railway bridges see Chapter IX.

### *Removal of Bridges*

Stone abutments are in all cases very substantially built on solid stone foundations. They are faced with coursed masonry set in mortar, with a hearting of dry rubble, and their removal would take a long time. In bridges of type A the roadway and beams are easily removable.

In order to move the roadway and stone slabs of the bridges of types D and E, sheers and tackle would be required, and also a considerable number of men. It has been found that



**SOUTH KIANGSU: WOODEN BRIDGES**





about 100 men are required in order to up-end the largest stone slabs. Spars, blocks, and rope could be obtained from boats, whilst labour could be requisitioned from the nearest villages.

Considerable time and labour would be required for the removal of the tops of bridges belonging to type B, unless explosives were used, in which case there would be considerable risk of blocking the waterway.

### FERRIES

Ferries are numerous, especially, on those larger waterways where, owing to the width of the channel, bridges are comparatively few. If a village does not possess a bridge there is almost invariably a ferry. The position of a ferry is often marked by a stone hut on the bank. The ferries vary widely in size and accommodation, from the large boats capable of taking 10 wheelbarrows or 40 to 50 men, to small boats and tub-shaped craft for foot-passengers only, and *sampans* propelled by a *yulo* (see p. 57), which will hold 6 to 10 people but cannot take horses.

### INLAND WATERWAYS

The two most important waterways of Kiangsu, the Yangtse and the Grand Canal, are dealt with in separate chapters, while the other main routes are severally described in the itineraries. All the larger towns in South Kiangsu can be reached by water, but it is noteworthy that there is no navigable connexion between the inland waters and the sea, except by the Yangtse, since the coast is protected by a sea-wall through which the water from the creeks is passed by sluices.

Besides the launch routes there are numerous creeks navigable by boats of  $2\frac{1}{2}$  to 3 ft. draught, and in addition to these there is a perfect network of lesser creeks on which small boats can ply. To such an extent is the delta cut up by creeks, that every villager can almost, if not quite, reach his door by boat.

In North Kiangsu, also, waterways are very largely used as a means of communication, especially in the country south of the latitude of Tsingkiangpu ; and in parts of the Hsia-ho district a regular network of waterways gives communication by boat in every direction.

It should be noted, however, that many waterways which by map appear to join each other are really separated by a dam, which prevents boats passing from one to the other. Sometimes an indirect route may give communication for boats between two waterways which are separated by a dam ; but these alternative routes are usually by small creeks : so that as a rule the main creek is used, and cargo is carried across the dam from one waterway to the other and put on to a fresh boat.

For transport purposes the waterways would doubtless be used extensively in military operations, especially in South Kiangsu, but it would be only along the larger channels, passable for ships or launches, that movements could be made with any rapidity.

There are certain main waterways which are navigable under all conditions ; but in very many cases the changing seasons cause difficulties in navigation. In winter the water becomes too shallow ; in summer and early autumn it rises, and although the increase in the depth of water would naturally be expected to permit the passage of larger vessels, the corresponding reduction in the headroom under some of the bridges neutralizes the advantage of greater depth.

As a rule the depth of the waterways is greatest from August to October, and least from January to March, but the rise and fall of the water cannot be foreseen, as the rainfall is fairly uniform throughout the year. During the summer so much water is taken from the creeks and canals to irrigate the fields, that a fall in the water-level is frequently caused. As the result of a heavy flood the embankments will sometimes give way ; the surrounding country is inundated and the water-level is suddenly lowered. For Chinese waterways are rarely dredged, and the practice is, as the depth increases



**STONE ARCH BRIDGE AND STONE SLAB BRIDGE  
BEYOND**



**FERRY BOAT: SOUTH KIANGSU**



with the deposit of silt, to raise the banks, and in consequence the whole waterway in time rises bodily above the surrounding country.

The depth of the waterway is sometimes affected by wind, which may blow water from the lakes into the creeks.

The following table of measurements taken at Soochow will give some idea of the variations in depth :

*Table showing the Highest, Lowest, and Average Water-levels on the Soochow Gauge during the Six Years ending December 31, 1905.*

<i>Month.</i>	<i>Highest. (ft.).</i>	<i>Lowest. (ft.).</i>	<i>Average. (ft.).</i>
January . . .	2.8	1.0	1.5
February . . .	2.8	0.3	1.3
March . . .	2.3	0.5	1.5
April . . .	3.5	1.0	2.0
May . . .	3.0	1.0	2.3
June . . .	3.8	1.0	2.3
July . . .	2.8	1.3	2.6
August . . .	4.8	1.3	2.8
September . . .	3.8	1.0	2.7
October . . .	3.5	1.8	2.5
November . . .	2.8	1.3	2.0
December . . .	2.5	0.8	1.7

In North Kiangsu ice is an obstacle in winter on some of the smaller creeks, especially where there is no current. The larger rivers are usually free from ice, and the waterways of South Kiangsu are never closed by ice.

Exclusive of the Yangtse and the Grand Canal, the chief inland waterways of Kiangsu are :

(1) By the Hung-tsê Lake to the Huai Ho, which gives communication with the province of Anhwei. (Route 35.)

(2) The Yen Ho (No. 1), from Sinpuchen to Tsingkiangpu. (Route 28 A.)

(3) The Li Ho from near Yangchow on the Grand Canal eastward through Taichow Ku and Jukao to Tungchow.

It has four smaller creeks connecting it with the Yangtse. (Routes 20, 22, and 23.)

(4) The Ta Ho from Taichow Ku northward through Hinghwa to Yencheng Ku. (Route 24 A.)

(5) The water route by the Yen Ho (No. 2) from Taichow Ku to Tungtaihsien. (Route 24 B.)

(6) The Ch'uan-ch'ang Ho from Haian through Tungtaihsien to Yencheng Ku. (Route 21 B.)

(7) By the Shang kang Ho and the Kang Ho from Yencheng Ku northward to Fowning. (Route 21 B.)

(8) The Yang-k'ou Ho from Yencheng Ku to the sea. (Route 25 D.)

(9) The Ta-shih-wan Ho from near Hwaiianfu to Shang kang. (Route 25 B.)

(10) The Shê-yang Ho from near Hwaiianfu through Fowning to the sea. (Routes 26 B and C.)

(11) From Tungchow eastward to Lüsze. (Route 20 C.)

(12) Huang-p'u River. For navigation from the mouth to Shanghai see *China Sea Directory*.

(13) Creeks branching from the Huang-p'u River :

(a) Soochow Creek or Woosung River. (Route 5 A.)

(b) On the Shanghai to Kashing route. (Route 3.)

(c) On the Shanghai to Pingwang route. (Route 4.)

(d) On the Shanghai to Sungkiangfu route. (Route 6.)

(14) From Shanghai to Taitsang. (Route 7.)

(15) From Shanghai to Changshu Ku. (Route 9.)

(16) Old central channel of the Yangtse, now a creek connecting Wuhu with the Great Lake (T'ai Hu). (Route 16.)

Numerous lakes, mentioned in the descriptions of the routes, assist largely in the inland water communication. The most important is the T'ai Hu, which has an area, at normal times, of over 1,000 square miles. It is very shallow, and is navigable for small launches only along certain known routes. Sudden storms are another source of difficulty ; and without the assistance of a pilot having local knowledge the navigation of all the lakes is dangerous (see Route 1 C). For the Hung-tsê Lake see Route 35.

## CHAPTER VII

### THE YANGTSE RIVER IN KIANGSU

From the Sea to Tungchow—Tungchow to Kiangyin—Kiangyin to Chinkiang—Chinkiang to Nanking—Nanking to Wuhu.

THE Yangtse flows from west to east through the province for 260 miles, dividing it into North and South Kiangsu. In the upper part of its course through Kiangsu its width averages from  $\frac{3}{4}$  to 2 miles. Below Tungchow, at what is known as the Lang-shan Crossing, it widens out to 10 miles, and maintains this width to a point beyond where the Huang-p'u joins it near Shanghai, becoming still wider near its mouth. The whole of this part of the Yangtse is navigable for large sea-going ships. Vessels of 29 ft. draught can usually reach Nanking at any time of year unless the water is exceptionally low, and those of 25 ft. always. Steamers call every day at Chinkiang and Nanking on their way up and down the river. Chinkiang is the chief centre for all launches, with the exception of those on the Li Ho and its tributaries. (The Li Ho starts from a point near Yangchow on the Grand Canal and goes eastward through Taichow Ku and Jukao to Tungchow ; there are four smaller creeks connecting it with the Yangtse.)

At Wuhu, 281 miles from the sea, the extreme range of the tide is 2 ft. at springs and 1 ft. at neaps. During the high river period in summer the rise and fall is even less. At Woosung, 32 miles from the sea, the rise and fall at springs is  $13\frac{1}{2}$  ft., at neaps 9 ft. The river is low during the winter season, December to March, and high from July to September, the average difference between its high and low level being, at Woosung, 3 ft. ; at Chinkiang, 12 ft. ; at Nanking, 18 ft. ; at Wuhu, 19 ft. The annual rise of the Yangtse causes inundations, the extent of which varies greatly in different years.



## FROM THE SEA TO TUNGCHOW

For 80 miles above Woosung—that is, nearly as far as Kiangyin—the river has a breadth of from 2 to 10 miles, but the navigable channel is much narrower owing to extensive sand- or mud-banks, which are subject to constant change. From the Yangtse Cape to the mouth of the **Huang-p'u** or Woosung River, the coast-line is low and flat, and an immense mud-bank extending from the shore makes landing impracticable. A sea-wall runs along the coast from a point halfway between Chapu and Kinshan, as far as the village of Lu-yüan-chên, 7 miles beyond Fushan. The wall is double from a point  $1\frac{1}{2}$  miles south of Tatwan and about 9 miles WNW. of the Yangtse Cape. Yet a third wall, east of the other two, and 11 miles in length, has been constructed from a point 3 miles east of Chwansha to the junction of all three walls, a little beyond the Kin-toan Beacon, where the river bank is only half a mile distant. At **Woosung**, which is protected by forts, all ocean-going steamers cast anchor. Shanghai, 12 miles up the Huangp'u, may be reached by train or steam-launch (see Route 8). Abreast of this point, the large island of **Tsungming** divides the Yangtse into a north and south branch. The navigable channel is on the south side of the island and over towards the right bank of the river. Tsungming is 42 miles long in a WNW. direction by 6 to 9 miles broad, and its superficial area is about 300 square miles. The population is very dense, being estimated by Havret at over a million. The island is alluvial in origin, and so low-lying as to be beneath the level of the highest floods, so that dykes have had to be constructed for the protection of the coasts. A sea-wall, 17 miles long, 10 ft. high, and 40 ft. thick at its base, starts near the south-eastern extremity of the island, runs inland for about 5 miles, and then turns towards the north coast, which it follows at a distance varying from a mile and a quarter to a few hundred yards in the last mile, where it passes close to the village of Fu-min-chên. The chief villages of the island lie in the area sheltered by this sea-wall: Mi-hang-chên in

the interior, Paochen less than a mile from the Yangtse on the south, and the long straggling market-town of Sinkaiho 9 miles from the city of Tsungming. The walls of this district city are 20 ft. high, 20 ft. thick, surrounded by a moat 30 yards wide, and pierced by 7 gates, including 2 water-gates. Naval wireless station here. In the NW. half of the island the only village of importance is Miaochen, at the intersection of several roads and creeks. The numerous canals which have been cut through the island in every direction are mostly silted up, and wheelbarrows form the principal means of transport. The inhabitants are extremely poor, and live in huts built of reeds and thatched with straw. Cotton-spinning is practically the only industry.

Above the mouth of the Huang-p'u several good landing-places can be found on the south bank. Half a mile north of the Woosung Lighthouse is Nan-shih-t'ang Fort, and  $1\frac{1}{4}$  miles farther up is Paoshan Point, just inside which is the walled city of Paoshan, marked by a pagoda. North-westward of this is a shallow bay, with a sand-bank off which shoal water extends upwards of a mile from the river bank. Three and a half miles above Paoshan Point is Shih-tzū-lin Fort, and 5 miles farther, at the village of Shih-tung-k'ou, is a favourable place to effect a landing. About 16 miles above Paoshan Point, just opposite the town of Tsungming, is the mouth of the Liu Ho, a creek leading past Liu-ho-hsin-chên (1 mile) and **Liuho Ku** ( $3\frac{1}{2}$  miles) to the city of Taitsang (22 miles; see Route 7 E). From Liu Creek to Plover Point, a distance of 25 miles, the river is encumbered with shoals. Near Plover Point is a village, and there is good anchorage just to the west of it. Farther on are the villages of P'êng-chia-ch'iao and Wang-shu-chên ( $1\frac{1}{2}$  miles inland), marked by conspicuous trees, and,  $12\frac{1}{2}$  miles above Plover Point, the small town of **Fushan**, a collection of white houses with a ruined pagoda and a small fort on a hill 135 ft. high. Here is a creek, with a narrow and shallow mouth, leading to Changshu Ku,  $10\frac{1}{2}$  miles inland (see Route 10). Both town and creek are commanded by the two hills Ma-chia Shan and Tien Shan,

about a mile to the west. The river channel now makes a sharp bend towards Vine Point on the left bank. This is known as the Lang-shan Crossing.

The channel north of Tsungming Island, said to have a depth of only 4 to 5 ft., is very little used except by native craft. Owing to shifting sand-banks and the alluvial deposit of the river, the configuration of the coast has undergone enormous changes even in the last 50 years. The ports of Lintienchen on the north bank, and of **Haimenting** 14 miles farther west, 20 miles below Tungchow, both lie on small tributaries of the Yangtse, and are visited daily by small Chinese steamers from Shanghai. There are a very large number of creeks opposite Tsungming Island, the last one of any importance being Niu Creek, where there is a beacon. For 10 miles after this the left bank of the Yangtse is low and ill-defined; the plain is then broken by hills 370 ft. high, on the NW. summit of which Lang Shan pagoda shows out conspicuously.

From Vine Point, which lies WSW. of Lang Shan, to Kiushan Point the left bank is low, but the first portion is steep-to. The other side of the river is a series of mud-flats. North Tree Beacon stands  $5\frac{1}{2}$  miles from Lang Shan pagoda, and a little to the south, close to the river bank, there is a convenient anchorage.  $2\frac{1}{4}$  miles farther on we come to Lao-lu-ching-chiang, which used to serve as port to **Tungchow**. The present port, **T'ien-shêng-chiang**, lies about  $2\frac{1}{2}$  miles above it. Here is a Custom-house with a clock tower. The river bank is faced with a stone bund, and off it are moored two hulks. River steamers call here to embark or discharge passengers bound to or from Tungchow, about 8 miles up the creek, which, turning nearly at right angles when 3 miles from the town, opens into the Yangtse just west of the Custom-house (see Route 20). Tungchow is in communication by water, through Jukao and Taichow Ku, with the Grand Canal at Liu-cha, 8 miles north of Yangchow, and launches run daily to Siennümiao, 10 miles short of Liu-cha (Route 22). There is also water communication northward with Tungtaihsien, Yencheng Ku, and Fowning (Routes 21, 24), and eastward with Lüsze (Route 20 C).

## TUNGCHOW TO KIANGYIN

Mud-banks stretch from here to Kiushan Point. Rounding Cooper Bank we reach **Changhwangkiang**, about 20 miles above Tungchow on the left bank, at the mouth of the Mo-t'ou Ho, by which there is communication by boat with Jukao on the Li Ho, 25 miles distant. Steamers do not stop at this place, but it is much frequented by boats in the high-water season. Eight miles farther up is the Tung-lo-tu Beacon, near which there are some hills 250-350 ft. high. South of Kiushan and Cooper Banks there is a direct channel, about 15 miles long and  $\frac{3}{4}$  mile broad, which is available for most of the steam traffic on the Yangtse. Another 8 miles brings us to the Kiangyin Narrows, where the river narrows to  $\frac{3}{4}$  mile, with a depth of 20 fathoms. The whole of the left bank from Kiushan Point onwards is well cultivated, with numerous hamlets inshore, and an embankment along the high river level. On the opposite side numerous creeks lead to Shih-ta-chiang, Shih-p'ai-chên, Shuang-p'ai-ch'iao, Huang-shan-chiang, &c., all between 1 and 3 miles inshore.

**Kiangyin**, a walled town quadrilateral in form, is situated about a mile from the right bank of the Yangtse, on a creek which is usually crowded with junks. The town is surrounded by a moat, which is joined to waterways leading to the Grand Canal (see Routes 14 and 15) and eastward to the Yangtse, 7 miles above Fushan. Parts of the surrounding country, except to the west, are moderately elevated, and there are numerous forts on the hill-tops. On the east hill is a signal station connected by a telegraph wire with Peking and Shanghai, and a submarine cable crosses the river hereabouts. Near it is a pier extending out into the river. On the left bank, which is lower, there are also some forts, so that the passage through the narrows is well guarded. Two creeks from this bank lead to **Tsingkianghsien**, 4 miles inland, and to Yin-sha,  $1\frac{1}{2}$  miles inland. There is a conspicuous look-out tower at the entrance to the Yin-sha creek. Kiangyin is a regular place of call for river steamers. Anchorages can be

found off the left bank of the river above the city, or for small vessels on the right bank, about  $\frac{1}{2}$  mile westward of the creek leading to Kiangyin.

#### KIANGYIN TO CHINKIANG

Between Kiangyin and a creek 11 miles farther up the river, which connects with the Grand Canal at Pên-hu, the right bank of the Yangtse is bordered by a mud-flat  $\frac{3}{4}$  mile broad, the outer edge of which is very steep-to. On the left bank, from the creek leading to Yin-sha to Bate Point, a distance of  $13\frac{1}{2}$  miles, the land is low and flat, with many small houses hidden in verdure and beautifully cultivated fields. Inshore is an immense green plain. At Bate Point the river turns north and widens to 5 miles, but the greater part of this area is occupied by a sand-bank on which are some islands, and the only navigable route is the Hermes channel close to the left bank. Two miles above Bate Point is a creek, near which is the village of T'u-ch'iao-chiang. Four miles farther, is the village of T'ien-hsing-ch'iao, with good anchorage for large vessels, and four miles farther still, a creek leading to the district city of Taihing, 3 miles inshore. River steamers stop here. The shore along the left bank, on the eastern side of Hermes channel, is wooded and populous, and extensively cultivated. Above Collinson Point the right bank of the river forms a deep bight. At  $7\frac{1}{2}$  miles above the point high rocky bluffs rise precipitously from the edge of the river in front of irregular pointed hills, the Ta-wan Shan, Ku Shan, Ch'i-fêng Shan, &c. Two of the summits are crowned by pagodas. A little farther on is the entrance to the Sha-yao Ho, a narrow channel, used by junks, which rejoins the main stream of the Yangtse north of Chu Shan.

The navigable channel passes to the west of Pottinger and Kiyung islands (now joined into one), and there is a good anchorage off the right bank abreast of the latter. Half a mile above Kiyung island is the mouth of the Kuo Ho, which runs into the Yangtse from Taichow Ku. Here is the village of

Lung-wo-k'ou and, 2 miles up the river, the port of **Kowan**, which is much used in the high-water season, as at that time of year boats of 4 ft. or 5 ft. draught can ascend to Taichow Ku, 19 miles distant (see Route 23). In winter there is in places not more than  $1\frac{1}{2}$  ft. of water in the Kuo Ho. Steamers do not stop here, but if required there would probably be no difficulty in anchoring and landing from boats. A much used wheelbarrow road, which is shorter than the river route, also connects Kowan with Taichow Ku. Taichow Ku is in communication by launch with Tungchow on the east and with Siennümiaio on the west. Northwards, launches run through Tungtaihsien to Yencheng Ku.

Off the right bank, 2 miles below Parker Point, the north point of the large island formed by the Sha-yao Ho, will be found a good anchorage for large vessels. Westward of Parker Point is Rose Island, about 1 mile in length, and separated from the right bank by a narrow channel used by junks in summer. Opposite Rose Island on the other side of the river, Siennümiaio (Sin-ni-mu) Creek runs inland in a NNW. direction; at its mouth is the village of **Sankiangying** (a harbour for sailing boats) and a fort. From Sankiangying there is water communication not only with Siennümiaio but also with the village of Pai-t'a-ho, 13 miles distant, on the Li Ho. Three and a half miles above Parker Point is the upper entrance to the Sha-yao Ho, bordered on the south by densely populated country extending to the slopes of Chu Shan (800 ft.), which is surmounted by a conspicuous pagoda 2 miles inshore, and Wu-chi Shan (500 ft.), with a row of batteries fronting the river. There are also forts on the opposite bank here. Anchorages for gunboats may be found 1 mile below Siennümiaio Creek; in the channel south of Rose Island; and in the Sha-yao Ho under the Chu Shan forts.

About 4 miles above the Sha-yao Ho is the village of Takiang, and  $2\frac{1}{2}$  miles farther on the village of Hai-ch'i. On the left bank, nearly opposite Takiang, a Custom-house stands at the mouth of a creek. Two miles above Hai-ch'i, and about a mile up a creek connecting with the Grand Canal,

is the village of Kienpi. There is some fairly elevated land in this neighbourhood. Three miles more bring us to the town of Tantu, situated on the Grand Canal, which, after running northward from Tanyang, turns westward at this point to Chinkiang. A creek half a mile long provides an outlet to the Yangtse. North of Tantu there are large flat islands in the river. The channel used by vessels of heavy draught runs north between the islands of Ta-sha and Changsang-chou, then turns west at Chin-chou Point. Smaller vessels generally use the Tantu channel. Just at the point where the north and south channels merge into one, **Chiao Shan**, or Silver Island, rises to a height of 233 ft. above high-river level. This island, the first above the mouth of the Yangtse which is not altogether alluvial, is well fortified and has a low pagoda on its summit. The land to the north of Chiao Shan consists of a low and richly cultivated plain; south of it, on the right bank, are the fortified hills, 159 ft. high, of Hsiang Shan Bluff. Between the island and the right bank is a difficult pass, encumbered with dangerous isolated rocks, so that the navigable channel is only about 130 yds. wide.

Two miles farther along the right bank is Pei-ku Shan or Consular Bluff, a little way north of **Chinkiang** city wall, and about 182 miles from the sea. Here the Grand Canal enters the Yangtse, after passing along the south and west sides of the city, with a small cutting through Chinkiang itself. On the left bank the village of Ch'i-hao-k'ou stands nearly opposite, and 3 miles higher up the Grand Canal continues its course northwards, passing to the west of the triangular island and walled town of **Kwachow**. The canal embankments on each side from Kwachow to Yangchow, eleven miles distant, are in fairly good condition; but although there has been some dredging done on the bed of the canal, there are still shallow patches at Yangchow, so that for a distance of 3 miles only 2 ft. of water (4 to 5 ft. in the high-river season) can be counted upon. The wall surrounding Chinkiang (see *Gazetteer*) is about 4 miles in circuit, and its north face

is about 600 yds. from the river bank. The European Concession extends westwards along the river front to the British Consulate on the slope of Yün-t'ai Shan, and Garlic Hill at the end of the bund, on which a white beacon has been erected. The land in the vicinity is low and flat, with several hills emerging from the plain. Chin Shan or Golden Island is now a precipitous rock on the right bank, west of the European Concession, built over with temples and a pagoda 213 ft. high. Though still an island 60 years ago, it is now 700 yds. inside the low river edge. This shows how rapidly the right bank is silting up at this point. At the same time the north bank is being constantly eroded. Depths in the harbour range from 5 to 26 fathoms. The landing-places are bad except at high river. A number of hulks are moored along the river front and connected to the shore by piers or jetties. At low river, the ends of the piers are extended somewhat. The best anchorage for gunboats in summer is above the hulks; in winter, vessels moor 2 cables or more away from them. Steamers call daily, bound either up or down the river, and there is railway communication with Shanghai and Nanking (see Chap. IX, railway No. I). A submarine cable crosses the river in a north and south direction close westward of Consular Bluff.

#### CHINKIANG TO NANKING

Two miles above Chinkiang is the island of Chin-chun-chou, 2 miles in length by 1 mile in breadth, and separated from the right bank by a narrow channel known as the Nien-yu-tao Creek. Its northern extremity, nearly opposite Kwachow, is named Saltoun Point. The main channel is to the north of this island and to the south of the large island Pi-hsin-chou (Deer Island), 6 miles in length. A stream flowing into the Yangtse from Kaotze, about 8 miles from Chinkiang by rail, is navigable at high tide up to a stone bridge  $1\frac{1}{2}$  miles south of the town. For a stretch of about 25 miles the country between the right bank and the Chinkiang-Nanking railway



is mostly low-lying paddy swamp, impassable except by foot-paths. The main road lies mainly on the other side of the railway, along the foot of hills covered with grass or dense prickly bushes (see Route 17). On the left bank, nearly opposite Bethune Point at the western end of Pi-hsin-chou, is the small but busy town of Shiherhwei, flanked by a fort on the east and a camp and salt station on the west. At Ssü-yüan-kou, 3 miles above Bethune Point, there is a Custom-house on the left bank, at the mouth of a creek leading to the market town of Icheng,  $1\frac{1}{2}$  miles inland (see Route 36). Three-quarters of a mile above the Custom-house is another creek, named Chu-hui-chiang, and 2 miles above is a second Custom-house (Lung-wang-miao) at the mouth of a creek, on the east side of which is the village of Shan-man-chou. Anchorage for small vessels exists abreast of Lung-wang-miao, just below Morrison Point on the right bank, where there is a small but conspicuous tree. Navigating south of the long rocky ledge called the Icheng Rocks we pass a third Custom-house on a creek at Tahokow, 4 miles farther up the left bank. Two miles NW. of Tahokow are two peaks about 400 ft. high. Two miles higher up there is anchorage for small vessels off the north shore.

Nine miles above Morrison Point and 2 miles from the right bank of the Yangtse is Lone-tree Hill (the tree which gave it this name is no longer there); northward of it is Hsi-hsia Shan, 891 ft. high. A creek from Chinkiang here turns into the Yangtse, after running more or less parallel to it for some 30 miles. The country from here to Nanking is more broken with hills: Cornwallis Bluff rises over the river to a height of 250 ft., above it are the Yen-tse-ke Hills, on which there are newly constructed forts, and the high hills of Wu-lung Shan form the point which has to be rounded by vessels desiring to reach Nanking by the Tsao-hsia Creek. Nearly opposite Cornwallis Bluff, on the left bank, is a mud fort with a beacon. These are really on the south point of a low island formed by the two branches of the Wang-chia Ho, a stream which passes by Ning-an Shan, a hill with a pagoda,  $7\frac{1}{2}$  miles inshore;

westward of this hill is the district city of **Luh** (see Route 36). The eastern outlet of the Wang-chia Ho is 3 miles east of Mud Fort, and the western 2 miles north-west of it.

The main stream of the Yangtse now makes a large curve round Tsao-hsia Island, which is separated from the right bank by a narrow creek named the Tsao-hsia Creek or the Nanking Cut-off. The interior of the island is often flooded; the northern portion is covered with reeds and bounded by shoals. Its western extremity is Pagoda Point, and from here to its southern extremity, Theodolite Point, the shore is steep-to. On the mainland,  $2\frac{1}{2}$  miles up the creek, is the village of Kwanyinmen, and farther on there is a line of batteries along the Mo-fu Shan and the Lao-hu Shan. Immediately above Theodolite Point is the city of **Nanking**, 228 miles from the sea by water, though but 170 as the crow flies (see *Gazetteer*). Ping-shan pagoda, on the western side of the river, opposite Tsao-hsia Island, is situated on the top of a hill backed by irregular ranges, on one of which, named Ting Shan, there is a fort.

Between the west wall of Nanking and the river are a series of moats and fish-ponds, and here also is the port of Nanking, called **Hsia-kuan**, situated on both sides of the Chin-huai Ho, a small river navigable for junks, which flows along or close to the south and west sides of the city, with two or three outlets to the Yangtse, forming one or two low flat islands between Nanking and that river. Along the river bank, as at Chin-kiang, hulks are moored and connected to the shore by piers or bridges. From abreast the southernmost hulk a stone bund has been built for a distance of 700 ft. to the southward.

On the left bank of the Yangtse, at the entrance to a creek, nearly opposite to, but a little below, the north end of Nanking, is the town of **Pukow Ku**, which is rapidly growing in importance as the terminus of the railway line from Tientsin. Four hulks are moored off the river bank here, the northernmost of which is for the use of the ferry steamers from Nanking. There is also a wooden pile wharf about 500 ft. long. Steam-launches run hourly between Nanking and Pukow Ku. The

normal rate of the stream here is  $2-2\frac{1}{2}$  knots. Tidal undulation is slight. The usual anchorage off Nanking is near the right bank, south of Theodolite Point. There is also anchorage off Pukow Ku, on the left bank or to the southward. Chinese war-vessels anchor near the mouth of the Chin-huai Ho, off Hsia-kuan; foreign war-vessels take up berths above the Custom-house about 3 cables off the nearest hulk, but sometimes they prefer to anchor in the shallower water near the left bank of the river. Small vessels find good anchorage off the left bank above Pukow Ku or near the north end of Me-tse-chou, and also in the mouth of the Nanking Cut-off. The landing-places at Nanking are all bad and unsuited for steamboats. A nasty choppy sea is caused by northerly winds. For railway to Shanghai via Chinkiang and Soochow see Chap. IX, railway No. I. All steam vessels proceeding up or down the Yangtse call at Nanking.

#### NANKING TO WUHU

The section of the river, 12 miles in length, from Hsia-kuan to Hsia-san Shan, a bluff 350 ft. high on the right bank, is known as Nanking Reach. Abreast of the city, but 2 to 4 miles west of its west wall, is the island Me-tse-chou (or Yung-ting-chou), 7 miles in length and 2 in breadth, separated from the right bank by a narrow channel which is used by junks in order to escape the strong stream setting down the main channel. Immediately west of Me-tse-chou, and separated from it by a very narrow creek, is a second island 4 miles in length. Between Wylie Point (the south end of Me-tse-chou) and Hsia-san Shan is the village of **Tashengkwan**, at the mouth of a creek. The whole of the land on the east side of Nanking Reach is liable to be inundated in summer up to the hilly ridge about 3 miles inland. On the west shore of Nanking Reach is a creek running inland in a NNW. direction to **Kiangpu**, an ancient walled town now partly in ruins (see Route 39), at the back of which, 5 miles from the river bank, there is a chain of hills. At the mouth of the creek, on the north side, is the village of Chiang-wei. Four miles farther

on is the entrance to another creek, with a small village. All the land is covered with reeds up to the foot of the hills.

The next section of the river, about 15 miles long, is called Elgin Reach. On the east side, just above Hsia-san Shan, there is a small island, 50 ft. high, and behind Rocky Point,  $4\frac{1}{2}$  miles higher up, a hill 70 ft. high. The foreshore between Hsia-san Shan and Rocky Point is rocky and foul. Pheasant Island, which is low and covered with reeds, is separated from the right bank by a narrow waterway which can be used by junks and small steamers. The boundary between Kiangsu and Anhwei passes through this island. The upper part of Elgin Reach on the east side is low and partially flooded at high water, but about a mile inland there is a ridge of hills, 350–500 ft. high, extending parallel to the river for about 7 miles. The north summit of this ridge has a small pagoda on it, and near it is a village. The shore on the west side of Elgin Reach is mostly low, covered with reeds, and steep-to. There are hills, 150 ft. high, a mile and a quarter inshore, about 3 miles up the reach, and again opposite the upper end of Pheasant Island. Rosina Rock lies 70 yds. off shore here, in front of a small bluff, and just south of the entrance to a creek, near which is a village.

Now come a series of islands, of which the largest is Wade Island, 8 miles in length and 3 miles in breadth. There are various channels between these islands, which are sometimes navigable and sometimes closed. On the right bank of the Yangtse, opposite Wade Island, is the walled town of **Tsaishih**, situated on a low hill about 1,500 yds. from the river (see Route 18). Here the ridge of hills above-mentioned comes to an end, and the country is low until within a mile or so of **Taiping An**. This prefectural city stands at the mouth of the Shui-yang Ho, 220 ft. wide and 20 to 30 ft. deep, which runs in a south-easterly direction towards a range of hills 1,500 ft. high, 5 miles inshore. On the left bank, opposite May Queen Island, is the opening of a canal which leads to the cities of **Hochow An** (see Route 39) and **Hanshan**. Another canal, the Wei Ho, abreast of the southern part of Wade

Island, leads to Chaohsien and the Ch'ao Hu, a large lake. The channel above Taiping An, between Jones Island and the right bank, is no longer used for navigation, though previous to 1905 it was the only channel by which vessels could ascend to Wuhu or places beyond. Near its southern extremity, on the right bank, is the village of Tang-tu.

About  $3\frac{1}{2}$  miles above the south end of Wade Island are two rugged cliffs, Hsi-liang Shan on the left, and Tung-liang Shan on the right side of the river; they are about 250 ft. high, and are fortified. These are called 'The Pillars', and the pass between them, T'ien Mên, is about 8 cables in width. Immediately above T'ien Mên is a low flat island,  $2\frac{1}{2}$  miles long by 2 broad, with a semicircular channel round its north and west sides. South of it is a tongue-like projection from the left bank, with a waterway west of it leading to the village of Yü-ch'í. From here another creek goes off to the Ch'ao Hu, joining the Wei Ho several miles inland. About 4 miles southward from the East Pillar is Morton Point, the western foot of a hill 500 ft. high, with Dearborne Island opposite. Two miles to the NE. there is another hill, near which the ground is cultivated and there are some villages. The navigable channel runs between Morton Point and Dearborne Island. At 53 miles above Nanking the important commercial town of **Wuhu** is situated on the mouth of the Yang-ki Ho (or Kuei-hsi Ho), a river which, with its tributary the Tai Ho, is navigable for junks and steam-launches to Ningkwofu (see Route 16).

NOTE.—The information in the above article has been drawn chiefly from the following sources:

- (1) *The China Sea Pilot*, vol. v (1st edition, 1912).
- (2) *Yangtse Kiang Pilot* (1st edition, 1914).
- (3) Admiralty Charts of the Yangtse Kiang: Sheet I, Shanghai to Nanking; Sheet II, Nanking to Kiukiang.
- (4) War Office MS. maps of Southern Chiang-su: Fêng-yen, Shanghai, Lou-wu-k'ou, Kiangyin and Nanking sheets.
- (5) War Office map of Northern Chiang-su, southern sheet (blue print).
- (6) *Military Report on the Province of Chiang-su*.

As regards the names and situation of villages, where there is a conflict of authority between the *Yangtse Kiang Pilot* and Admiralty Charts on the one hand and the War Office maps on the other, the latter have been followed by preference.

## CHAPTER VIII

### THE GRAND CANAL

History and Description—Navigation—Communications in North Kiangsu and South Kiangsu.

#### HISTORY AND DESCRIPTION

THE Grand Canal—known to the Chinese under the names of *Yü Ho* (Imperial river), or *Yün Ho* (transport river), or *Yün-liang Ho* (grain transport river)—traverses the whole province of Kiangsu from north to south in a line almost parallel to the sea coast. Beyond Kiangsu it continues north through Shantung into Chihli, and after passing through Tientsin, finally ends at Peking. The southern terminus is Hangchow, an important Treaty Port in the Province of Chekiang.

The waterway connecting the Yangtse River with Canton, via the Tung-t'ing Lake and the rivers Hsiang Kiang, Kuei Kiang and Si Kiang (West River), is also generally considered as a continuation of the Grand Canal, so that the latter constitutes, at all events at certain seasons of the year, an uninterrupted water route between Peking and Canton. Before the advent of railways it was the most important means of communication between North and South China. Through lack of dredging and general neglect the usefulness of certain sections has, however, been seriously impaired.

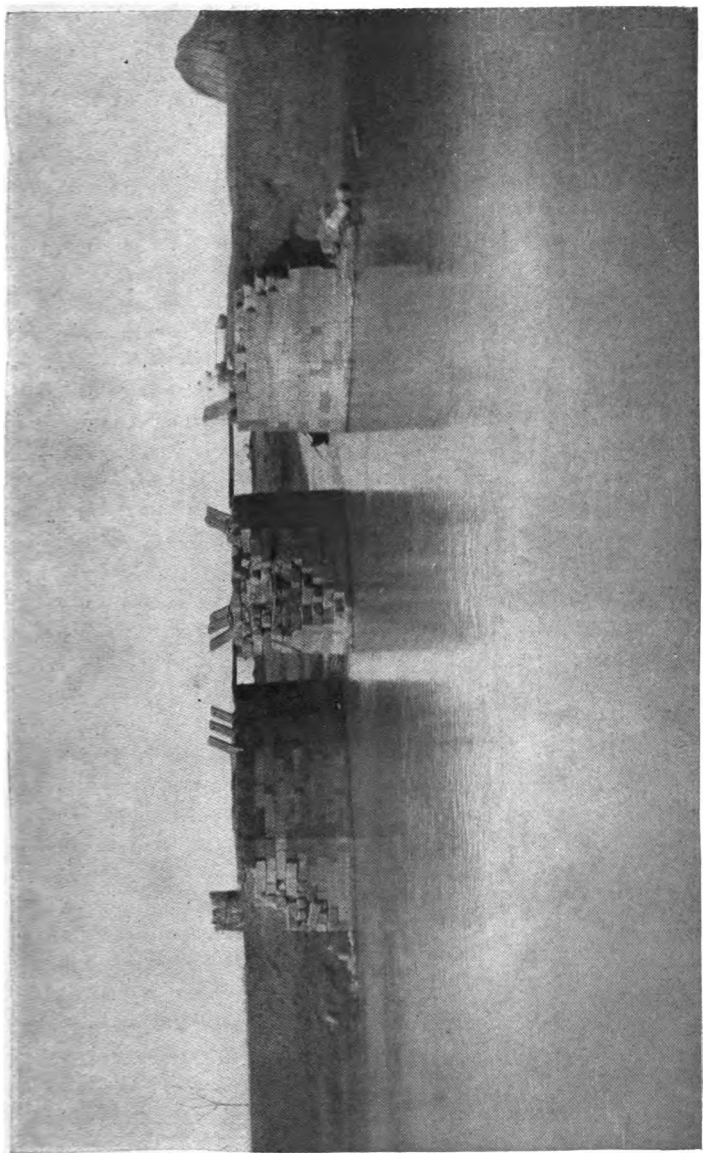
The existing canal is not the result of a well thought out scheme but the outcome of experiments carried out through many centuries and brought to a successful issue after repeated failures. The earliest attempt to connect the Yangtse with the Huai River goes back to the fifth century B. C. The section from Hangchow to Chinkiang on the Yangtse was built early in the seventh century A. D. The northern part,

as far as Peking, is stated to have been constructed in the three years A. D. 1280-3.

The Grand Canal, like most canals of China, was made to serve a double purpose: primarily to supply an easy means of communication, but also to provide a system of drainage and irrigation. This is particularly apparent in Kiangsu. With the exception of the district around Nanking, the whole province is one immense alluvial plain, rising very little, if at all, above sea-level. The thickly populated and fertile region north of the Yangtse and east of the canal lies, for the most part, below the level of the canal bed, the volume of water rising from 7 to 22 ft. above the adjacent plain. This state of affairs is largely due to the fact that waterways silt up rapidly in China, and that the Chinese, instead of dredging the beds, prefer to raise the embankments of their canals.

*Embankments.*—The embankments of the Grand Canal consist of earth actually thrown up when the bed of the canal was cut, further reinforced by soil taken from the adjacent plain. The eastern embankment measures about 100 ft. at the base and 30 ft. at the top. The western embankment is somewhat narrower (about 80 ft. at the base, 10 ft. at the top). To break the power of the current, convex surfaces of the bank have been faced with limestone to the height of some 14 ft. Elsewhere the level, wherever necessary, has been reinforced by brick-work or reed fascines. Extensive use of masonry has been made in the southern section of the canal (i. e. between Hangchow and Chinkiang). The top of the embankment provides a convenient *towpath*, but the available room is greatly reduced by the numerous houses which line the waterway. (For further details see Routes 1 and 19.)

The Grand Canal in Kiangsu and Shantung is fed by a series of *lakes* situated along its western bank. These lakes act like impounding reservoirs, storing up the waters supplied by inland rivers, and releasing it as required for the maintenance of a sufficient navigable channel. Owing to the unsatisfactory condition of the flood-gates and of the embankments, both of the lakes and of the canal, this object cannot



FLOOD-GATES ON THE GRAND CANAL (BETWEEN CHINKIANG AND TSINGKIANGPU)





always be achieved, and certain sections north of Tsingkiangpu occasionally run dry in the winter months.

In order further to regulate the flow of water in the canal three devices have been applied :

(a) *Floodgates* or *spillways* (Chinese *tung*), usually 6 ft. (at most 10 ft.) wide in gap, have been provided at intervals and at a certain height along the eastern bank. Through them the surplus water is diverted into the neighbouring rice fields.

(b) *Locks* or *weirs* (Chinese *cha*), built across the canal, with a removable centre part consisting of large beams slipped one above the other into sockets of masonry. When the beams are removed, they provide an opening of about 22 ft. in width. The difference of level above and below the lock is often considerable, as much as 2 ft. Ascending boats have to lighten and be dragged over 'haulovers' by means of capstans and cables, requiring the services of hundreds of coolies. Needless to say, these locks are a great impediment to navigation. There are four of them in Kiangsu, one in Tsingkiangpu, and three others a few miles above it (see Route 19 (2)). They become more frequent as one goes north, but they are less formidable. There are 33 in Shantung; the most difficult of them (between Taierhchwang and Hanchwang) have a change of water-level of only 3 to 6 inches, and appear to give little trouble even to the largest boats.

(c) *Movable barriers* (Chinese *pa*), a few hundred feet in length, consist of reed fascines and earth resting on a stone foundation. In times of flood pressure is relieved by removing a few reed fascines. The water rushing through the small gap soon enlarges it and sweeps the whole barrier away. A network of canals and drains leads the water eastward towards the sea. But the country, being low-lying, serious inundations are bound to ensue. Furthermore, the barriers once removed cannot be rebuilt until the waters are quite low again. Recourse is had to this expedient, therefore, only in case of absolute necessity, to prevent the pressure of the water from bursting the embankments. There are five such

barriers in Kiangsu, four in the neighbourhood of Kaoyuchow and one farther south near Yangchow.

*Bridges.*—South of the Yangtse the Canal is spanned at frequent intervals by stone bridges, some of one arch, others of several arches. In addition there is a railway bridge north of Sinfeng Ku (mile 137·4 of Shanghai-Nanking Railway).

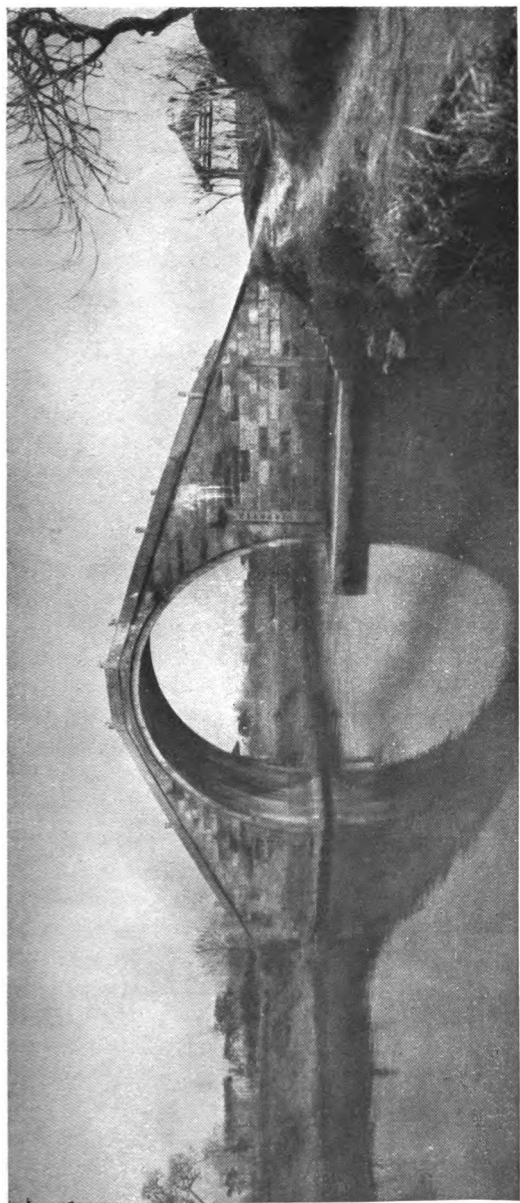
North of the Yangtse, stone bridges are replaced by pontoon bridges. The roadway (9 ft. wide) is constructed of planks, so arranged that those in the centre can be removed for the passage of boats. At present one railway bridge crosses the Canal just south of Hanchwang (about 238 miles from Pukow, on the Tientsin-Pukow line); two others are projected, one at Yangchwang Ku above Tsingkiangpu (where for some time a steam-ferry connected the two sections of the Tsingkiangpu-Süchowfu line—see railway No. X), and the second at Kwachow (Icheng-Taichow Ku line—see railway No. XVI).

*Customs.*—There are many Custom-houses along the Grand Canal, some collecting dues on behalf of the central government, others, more numerous, on behalf of local mandarins. Chief among the former are those located at Hangchow in the Province of Chekiang, Soochow, Chinkiang, Kwachow, Yangchow, and Sutsien in Kiangsu, and Lintsingchow in Shantung. The local customs or *likin* are distributed along the whole length of the Canal. They are particularly numerous in North Kiangsu. Gandar (1894) mentions no less than 50 *likin* stations between Kwachow and Tsingkiangpu. The dues and exactions levied by them greatly increase the cost of freight, and the frequent stops and searches to which boats are subjected seriously reduce the speed of traffic. At most stations, to prevent smuggling, a wooden barrage is thrown across the Canal during the night; all boats being held up between sunset and sunrise.

#### NAVIGATION ON THE GRAND CANAL

From the point of view of navigation the Grand Canal may be conveniently divided into 4 sections:

- (1) **Hangchow to Chinkiang.** Distance about 200 miles, of



BRIDGE OVER GRAND CANAL NEAR SHIHMEN CHE (ZA-MEN)

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which 135 miles are situated in Kiangsu and the remainder in Chekiang. The Canal lies in long, straight reaches, is of a fairly uniform width of 40 yards, and except towards Chinkiang, where a gradual silting up of the Yangtse is taking place, its navigation within the limits of Southern Kiangsu presents no difficulties. The original course of the Canal runs under the southern wall of Chinkiang, and has an exit into the Yangtse near the British Concession. In winter this is completely silted up, and traffic reaches the Yangtse through Tantu (some 10 miles below Chinkiang) by leaving the Canal and following a tortuous river bed. At other points also navigation becomes difficult owing to the shallowness of the water; this is the case particularly at Tanyang (some 20 miles south of Tantu) and to some extent also at Shihmen Che and Shihmenwan, about half-way between Kashing and Hangchow. Some of these shoals can, however, be avoided by following side canals (see Route 1 B). The depth is usually sufficient all the year round for launches drawing  $4\frac{1}{2}$  ft., and in most places is far greater than this. The Canal is tidal from south of Tanyang to the Yangtse. There is a very slight current from the direction of Hangchow.

(2) **Chinkiang to Tsingkiangpu.** Distance about 111 miles. This section really begins at Kwachow on the Yangtse, opposite Chinkiang. In summer, when the Chinkiang end of the Canal is navigable, boats coming from the south will cross the river from Chinkiang (a distance of  $3\frac{1}{4}$  miles), but during the low-water season the traffic must go through Tantu (about 12 miles below Kwachow). As the wind is generally easterly, the connexion between Tantu and Kwachow is unattended by difficulty.

Between Tsingkiangpu and Paoying the width between the banks is as a rule about 100 yds., and that of the waterway in winter about 50 yds. Below Paoying these dimensions decrease by one-half for some 20 miles, after which they gradually increase again up to Liu-cha. South of Liu-cha the course of the Canal is through the shallow Shaopo Lake for  $1\frac{1}{2}$  miles; after which it again becomes a definite water-

way 100 yds. wide, gradually narrowing in the next 4 miles to an average width of 50 yds., at which it continues.

The winter depth ranges from 3 to 15 ft. It varies considerably, but the average increases from north to south. The tide is felt as far north as Yangchow. The current is generally running south, but occasionally, owing to the influence of the Yangtse and other causes, it runs north in some sections at certain times of the year. As a rule the current is sluggish; but there are places, particularly along the walls of Yangchow city, and in the last few miles before the Yangtse is reached, where it flows at the rate of fully 4 miles an hour. This section of the Canal is fed by the Huai Ho, the waters of which are stored in a series of lakes distributed along the west bank of the Canal (Hung-tsê Hu, Poying Hu, Kaoyu Hu, and Shaopo Hu). Except across the Shaopo Lake, there is an unbroken path throughout on the top of the bank, and towing is always possible. (For further details see Route 19.)

Through gradual silting up of the Canal, navigation appears to become year by year increasingly difficult. The following remark, contained in a recent Post Office Report (1913), is significant, and applies chiefly to sections (2) and (3) of the Canal: 'During the high-water season steam-launches are not allowed to ply along the Canal and inland waterways, as their passage causes the water to overflow the banks; while in the winter they are prevented from running by the shallowness of the water.'

There is hope that at no distant future its course may be considerably improved. A scheme elaborated by the commission sent out under the auspices of the American Red Cross Society (July 1914) contemplates the increased navigability of the Grand Canal, by (a) bringing under control the waters of the Huai Ho, (b) draining the Hung-tsê district, (c) building locks in the Canal between Chinkiang and Tsingkiangpu. More important still is the fact that the Chinese Government is at last giving to conservancy work the attention which it deserves. Conservancy bureaux have been

established in many provinces under the general supervision of the National Conservancy Bureau at Peking. Thanks to these efforts navigation should be greatly facilitated within the near future.

Even as it is, this section of the Grand Canal offers the best means of communication between North and South Kiangsu. It is frequented by thousands of native boats, and a regular service of steam-launches and tugs is maintained by the Nisshin Kisen Kaisha (a Japanese company), the Tai-sêng-tsang, and the China Merchants' S. N. Co. These launches draw from 2 to 4 ft. of water, and tow either one or two large passenger-boats, each licensed to carry an average of about 160 Chinese, and capable of accommodating 100 lightly equipped infantry soldiers. The maximum speed of a steam-launch with a full load probably does not exceed 7 miles an hour in slack water.

(3) **Tsingkiangpu** to the **Yellow River** (Huang Ho). Distance about 930 li, say 280 miles, of which 400 li, say 120 miles, are in Kiangsu, the remainder (i. e. about 160 miles) being in the province of Shantung. In respect of physiological conditions it differs entirely from section (2). It has been cut across the western spurs of the Shantung mountains, which completely shut it off from the sea.

In order to feed the Canal during the low water season important engineering works had to be undertaken, such as the construction of large barriers along the beds of the Wên Ho and of the Tzû Ho. On the other hand, numerous lakes along the Canal (e. g. Shu-shan Hu, Tu-shan Hu, Chao-yang Hu, and Wei-shan Hu) were used as storage basins and supplied with locks to regulate the amount of water. Many of the works are still in good condition, but in most cases the channels leading to and from these lakes are silted up, with the result that the latter no longer fulfil their object, but indeed are mere swamps or partly under cultivation. The South Grand Canal Conservancy Bureau in Shantung began a survey of the whole district early in 1915, and have elaborated a scheme whereby the lakes shall revert to their true function



of regulating the water-level of the Grand Canal, and the state of the latter shall be further improved by the dredging of shallow parts.

Until these improvements are carried into effect, navigation on this section must continue to be increasingly difficult. At various points steadily growing sandbanks threaten to block up the fairway altogether. This is particularly the case between Hanchwang and Tsining, where in winter the depth is often less than two feet. (In summer there would be enough water for boats of 4-ft. draught.) The comparatively high level of the bed of this section of the Canal presents difficulties which cannot be overcome altogether. The numerous locks, even if they were in good working order, must of necessity retard the progress of boats. Under present conditions traders generally avoid them, especially those locks situated immediately north of Tsingkiangpu, and prefer to continue their journey by land.

The width of the Canal varies considerably, but is seldom less than 80 yds. The current is very weak except at the two extremities. It runs south from Taierhchwang to Tsingkiangpu and north from Liukiakow to the Yellow River. In winter the Canal north of Tsingkiangpu is generally ice-bound for about two months. South of the same town, except in abnormal years, the ice never seriously interferes with the traffic.

(4) **Yellow River to Tientsin and Peking.** Distance, about 1,540 li, say 462 miles. This section lies entirely in Shantung and Chihli. Between the Yellow River and Lintsingchow it is quite dry during the greater part of the year (the bed of the Canal being several feet above the low-water level of the Yellow River). In the high-water season it silts up so rapidly that the locks are usually kept closed. Moreover the passage of the Yellow River is not without danger, both on account of the rapidity of the current and the number of villages and walls submerged by the river when it changed its course in 1852. From Lintsingchow to Tientsin the Canal follows the winding course of the Wei Ho, which has been embanked. It is rather narrow and shallow between Lintsingchow and

Tehchow (20 to 40 yds.), but widens and deepens beyond the latter town. Shallow-draught steam-launches run on this section, the traffic increasing as one approaches Tientsin. A regular service of passenger-boats, maintained by the 'Etablissements de Tongku' (Tangku), has occasionally to be suspended during the summer floods, for fear of damage to the banks of the waterway. For part of the winter the Canal is ice-bound.

#### COMMUNICATIONS WITH THE GRAND CANAL

##### (A) *South Kiangsu*

(1) There is direct **access from the sea** to the Grand Canal :

(a) Via Chinkiang, Tantu, Tushan and Penniu (Route 1 A).

(b) Via Shanghai and Kashing (Route 3).

(c) Via Shanghai and Pingwang (Route 4).

(d) Via Shanghai and Soochow (Route 5). For shallow boats only.

(e) Via Kiangyin (Routes 14 and 15).

(f) Via Tanyang Creek and other small creeks between Kiangyin and Tantu.

(g) Via Wuhu (Route 16).

N.B. At Hangchow there is no communication with the sea, as the estuary of the Ch'ien-t'ang River is not navigable.

(2) The Grand Canal is also connected with the following **inland waterways** :

(a) At Hangchow with the navigable section of the Ch'ien-t'ang River, by means of a small canal.

(b) At Pingwang and at Tangsi with a creek leading to Huchowfu (Route 1 B).

(c) At Soochow with the T'ai Hu or Great Lake (Route 1 C).

(d) At Loshe (near Wusih) with Wuhu on the Yangtse (Route 16).

(3) The following **railway lines** lead to the Grand Canal :

(a) Shanghai-Hangchow line at Kashing, and again at Hangchow by the Kung-ch'ên-ch'iao branch (see Chap. IX, railway No. V).

(b) Shanghai-Nanking line at Soochow. From Soochow to Chinkiang the railway runs almost parallel to the Grand Canal. At Sinfeng Ku it crosses from the eastern to the western bank (see railway No. I).

(c) Soochow-Changshu Ku line (projected 1916, see Chap. IX, railway No. XI).

(d) Ningpo-Hangchow line (under construction, 1916, see railway No. V).

(e) Wuhu-Hangchow line (under construction, 1916, see Chap. IX, railway No. XIII).

(4) **Roads** connected with the Grand Canal :

(a) A fairly good road or towpath runs along the Canal the whole way.

(b) Tanyang-Nanking road (Route 17 B).

(c) Chinkiang-Nanking road (Route 17 A).

### (B) *North Kiangsu*

(1) **Access to the sea** for larger boats is only possible through Kwachow on the Yangtse.

But shallow boats can reach the sea from the Grand Canal :

(a) Via Yencheng Ku (Route 25).

(b) Via Fowning (Route 26).

(c) Via the Yen Ho (No. 1) (Route 28 A). Note, however, that both near Tsingkiangpu and at Sinpuichen boats have to be hauled over the dikes which seal up the extremities of the Yen Ho.

(2) The only **inland waterway** of any importance is the Huai River, which can be reached from the Grand Canal :

(a) Via Tsingkiangpu, at all times of the year (Route 35).

In summer also

(b) Via Kaoyuchow	} (Route 19 (1)).
(c) Via Ma-p'êng-wan	
(d) Via Liu-man-cha	

(3) The following **railway lines** join the Grand Canal :

(a) The Tientsin-Pukow Ku line, which crosses the Canal

south of Hanchwang in Shantung, close to the border of Kiangsu (see Chap. IX, railway No. VI).

(b) The Tsingkiangpu-Süchowfu line, under construction, will cross the Canal west of Tsingkiangpu (in 1912 steam-ferries linked up Tsingkiangpu with the rest of the line, see Chap. IX, railway No. X).

(c) The projected Icheng-Taichow Ku line will cross the Canal at Kwachow (see railway No. XVI).

(d) The Tsingkiangpu-Haimenting line will follow the east bank of the Canal (projected—see Chap. IX, railway No. XV).

(e) At Taierhchwang a colliery line links up the Canal with coal-fields of Yih sien (Shantung—see Chap. IX, railway No. VIII).

(4) The following roads are connected with the Grand Canal :

(a) The road along the bank of the Grand Canal continues, except through lake Shaopo (Route 19 (1)).

(b) Yangchow-Pukow Ku road (Route 36 B).

(c) Kwachow-Pukow Ku road.

(d) Tsingkiangpu-Haichow roads (Routes 28 B, C, and D).

(e) Tsingkiangpu-Sutsien-Ichowfu road (Route 32 A).

(f) Sutsien-Süchowfu roads (Route 33).

## CHAPTER IX

### RAILWAYS

Historical Note—Railways in operation—Railways under construction  
—Projected Railways.

#### *Historical Note*

IN a country where made roads are practically non-existent, and traffic is almost entirely confined to congested waterways, the strategic value of railways must be greatly enhanced. Even if little rolling-stock be available, the railway tracks will prove invaluable, and afford in many cases the sole means of conveying heavy artillery and supplies to the interior.

Kiangsu was the first province of China to possess a railway. The line from Shanghai to Woosung was constructed in 1876. The gauge was 30 in. and the rails were 26 lb. to the yard. It was the work of a private British company, who bought the land necessary for the ostensible purpose of a public road, and did not disclose their real object to the Chinese authorities until the scheme was far advanced. The line was opened for traffic in July, 1876, and proved popular; but a month afterwards a Chinese was run over, and this accident led to official interference, the purchase of the line by the Chinese Government, its demolition in 1877, and the removal of the rails and rolling-stock to Formosa.

It was not till after the Chino-Japanese War that a serious breach was made in the wall of Chinese prejudice against railways in the Yangtse region. Viceroy Chang Chih-tung advocated them, and a beginning was made once more on the 10-mile stretch between Woosung and Shanghai in 1898.

This short railway, of standard gauge, was built by Chinese capital under the direction of the celebrated Taotai Shêng Hsüan-huai.

The 'battle of concessions' was strenuous in 1898. As a result of strong diplomatic pressure the British Government obtained for a British financial combination, known as the British and Chinese Corporation, a concession to build several railway lines in South Kiangsu, Chekiang, and elsewhere. In 1899 the British and German interests arranged to finance, jointly, the construction of the Tientsin-Pukow railway. The Boxer rebellion of 1900 caused the question to remain in abeyance for some years. Actual construction of any of the main lines of Kiangsu was not begun until 1903. Since then, however, progress has been rapid. At the present moment (1916) the lines operated within the province amount to some 378 miles, those under construction to 120 miles, whilst projected lines, if carried out, will add at least 389 miles of railway, bringing the total mileage to 887 miles, or an average of 23 miles of rail to every thousand square miles. The detail is set out in the following table :

<i>Name of Railway.</i>	<i>Total Mileage.</i>	<i>Mileage in Kiangsu.</i>
<i>(A) Railways in operation</i>		
I. Shanghai-Nanking . . .	193.3	193.3
II. Shanghai-Woosung . . .	10.2	10.2
III. Shanghai Loop Line. . .	10.2	10.2
IV. Nanking City . . . . .	8	8
V. Shanghai-Hangchow (-Ningpo). . .	220	38
VI. Tientsin-Pukow . . . . .	628.4	61.5
VII. Kaifeng-Süchowfu . . . . .	175	(?) 57
VIII. Tsaochwang-Taierhchwang (Shantung) . . . . .	26	—
<i>(B) Railways under construction</i>		
IX. Pukow-Sinyangchow (Honan) ..	346.7	—
X. Süchowfu-Tsingkiangpu . . . . .	120	120

<i>Name of Railway.</i>	<i>Total Mileage.</i>	<i>Mileage in Kiangsu.</i>
(C) <i>Projected railways</i>		
XI. Soochow-Changshu Ku . . .	16	16
XII. Wusih-Kiangyin . . .	25	25
XIII. Nanking-Changsha (Hunan) . (?)	800	25
XIV. Tsingkiangpu-Haichow . . .	70	70
XV. Tsingkiangpu-Tungchow (or Haimenting) . . .	(?) 170	(?) 170
XVI. Icheng-Shiherhwei-Kwachow- Taichow Ku . . .	48	48
XVII. Pukow Ku-Icheng (or Kwachow) (?)	35	(?) 35
XVIII. Kaomi-Haichwang (Shantung)	220	—

All the railways of Kiangsu are of standard (4 ft. 8½ in.) gauge.

## (A) RAILWAYS IN OPERATION

### I. SHANGHAI-NANKING (OR HU-NING) RAILWAY

A preliminary agreement providing for the construction of this line was drawn up on May 13, 1898, but the final agreement was delayed by the Boxer outbreak of 1900 and was not concluded until July 9, 1903.

The essential terms of this agreement were :

1. The issue by the British and Chinese Corporation of a loan not exceeding £3,250,000. Imperial Chinese Government bonds for that amount were to be issued and the railway was pledged as security therefor.

2. The construction and operation of the railway was to be controlled by a Board of Commissioners, two British, two Chinese, and an Engineer-in-Chief (British), five in all. In case of disagreement between the Chinese and British members, the Director-General of the Imperial Chinese Railway Administration and the Agent of the British and Chinese Corporation were to adjust the dispute amicably.

For the important offices of the railway foreigners of ability and experience were to be employed.

A railway police of Chinese with Chinese officers was authorized, their maintenance and wages to be wholly defrayed by the railway.

3. The then existing Woosung-Shanghai railway was to be taken over as part of the Shanghai-Nanking system and treated as part of that line, at the price of Tls. 1,000,000 or £125,000.

4. 'In case of military operations, whether on account of foreign war or internal insurrection, the movement of troops, ammunition and stores by the Chinese Government, and in case of famine or other great calamity the dispatch of relief, shall, on the requisition of the Director-General, have preference over the line at half of the tariff rates' (Article 19).

The control previously exercised by the Anglo-Chinese Board has since been transferred by mutual consent to a Chinese director, and the line is now under the direct management of the Chinese Government.

The first section of 12 miles was opened in 1905, and Nanking was reached early in 1908. The line was well laid and well equipped, but owing to the competition of water-borne traffic it has not been a commercial success so far. The situation, however, has improved of late. Both freight and passenger traffic is steadily increasing. The increase would be more rapid still if, on the one hand, the ferries now plying between Nanking and Pukow Ku were replaced by train-ferries, whereby railway wagons could be ferried across from one station to the other without breaking bulk, and if, on the other hand, the Chinese management would provide the necessary rolling-stock. But even with these handicaps the line (according to 1916 reports) is now paying expenses.

### *General Description*

*Track.*—The line is 193 miles long, of standard (4 ft. 8½ in.) gauge, and single throughout, but on the section between Shanghai and Soochow (mile 53) the earthwork and bridges



have been made to take a double line. The rail used is a flat-bottomed 85-lb. rail in lengths of about 36 ft. No chairs are used, the rail being spiked direct to the sleepers, which are of Jarrah wood. Ballast (granite for the first 144 miles) is plentiful and good, and the track is maintained in first-class condition in every way.

*Curves and gradients.*—The greater portion of the country traversed by the line is absolutely flat, and there are no steep gradients or sharp curves. The sharpest curves are of 3 degrees or 1,910 ft. radius, and of these there are only two in the whole line. The ruling gradient is 1 in 200.

*Bridges.*—Between Shanghai and Nanking there are 303 bridges, with a total waterway of 5,857 lineal feet. They are particularly numerous from Shanghai to Wusih (mile 80), because although there are no bridges of larger span than 60 ft., 164 navigable canals and creeks have to be crossed, an average of just over two bridges per mile. From mile 80 to mile 144, near Chinkiang, there are rather more than one a mile, the work, however, being of a heavier nature. From mile 144 to Nanking the bridges are mostly minor openings, as, owing to the more hilly nature of the country, there are few defined main creeks. Three types of bridges are generally adopted, viz. abutments with splay wing walls, abutments with straight return wing walls, and pier abutments. Wherever possible, where headway permitted, arched superstructure was adopted, but in the majority of cases steel-girder superstructure had to be used. Most of the creeks crossed being navigable, sufficient headway for boats had to be given; this was invariably fixed from that of the lowest existing bridge on the creek. The piers and abutments are constructed of brickwork on concrete foundations between Shanghai and Soochow, of coursed granite set in cement on concrete foundations between Soochow and mile 144, and from that point to Nanking of cement concrete. There are no very big bridges on the line, and deviations with low-level temporary bridges could be easily constructed in case of damage to the permanent bridges.

The first bridge of any importance occurs at mile 30 after leaving Shanghai. The line here crosses the Hsing-yang Chiang by a bridge of four spans of 40 ft., with two 20-ft. arches on either side. The next important bridge occurs at mile 36·88, where the line crosses a creek west of Kunshan. The bridge consists of three spans of 60 ft. Other important bridges are : at mile 52·12, over Soochow to Changshu Ku Creek (1 girder span of 60 ft., 4 arches of 20 ft.); at mile 54·5 (1 girder span of 40 ft., 4 arches of 20 ft.); at mile 67 (1 girder span of 60 ft., 3 girder spans of 30 ft.); at mile 83, over Wusih to Kiangyin Creek (1 girder span of 60 ft., 2 girder spans of 30 ft.); at mile 137·4, over Grand Canal (3 girder spans of 60 ft.).

*Tunnels.*—The only tunnel on the line is situated at Chinkiang, the railway being taken through Fort Hill on a falling gradient of 1 in 300 to Chinkiang station. This tunnel is 1,320 ft. long and is wide enough to take double line. The shaly nature of the rock passed through necessitated the arching of the roof and the lining of the side-walls with brick throughout the length of the tunnel.

*Rolling-stock.*—The total amount of rolling-stock available for use on the line in December 1915 can be classified as follows :

Locomotives :

		Type.		Number.
Passenger	.	4—4—0	.	12
"	.	4—2—2	.	4
"	.	4—4—2	.	4
"	.	2—4—2	.	3
Goods	.	4—6—0	.	10
Shunting	.	4—6—2	.	2
"	.	0—6—0	.	2
				—
Total				37

## Carriages :

	<i>Number.</i>	<i>Total carrying capacity.</i>
1st Class Cars, ordinary . . .	4	310 men.
1st Class Cars, ordinary, with Kitchen . . . . .	5	230
2nd Class Cars, ordinary . . .	3	216
3rd Class Cars, ordinary . . .	39	4,418
Coolie Class Cars . . . . .	19	1,084

## Composite :

1st and 2nd Class Diners . . .	7	420
1st and 2nd Class, ordinary . .	4	274
1st, 2nd, 3rd, and Brake . . .	1	90
3rd Class, miscellaneous . . .	16	1,124
Brake and Baggage Vans . . .	3	—
<b>Totals</b>	<b>101</b>	<b>8,166</b>

## Goods Wagons :

Covered . . . . .	304	7,218 tons
Open . . . . .	90	2,555
Adapted for special purposes . .	44	1,173
<b>Totals</b>	<b>438</b>	<b>10,946</b>

*Speed.*—In May, 1908, the first through train covered the distance of just over 193 miles in 5 hours 37 minutes (including stoppages). Fast passenger trains run between Shanghai and Nanking at an average speed of 32 miles per hour, including stops. The average speed of slow passenger trains is 20 miles per hour. In April, 1916, three express trains were running daily from each end—one express train in the forenoon, one special express in the afternoon, and a night express (with sleeping-car attached). The afternoon express covered the distance in about 6 hours, the night express in 8 hours ; while the ordinary passenger train took 10 hours.

## TIME TABLE FROM MAY 1915 TO APRIL 1916

Shanghai	. dep.	7.35 a.m.	1.05 p.m.	11.00 p.m.
Soochow	. arr.	9.40	2.37	1.00 a.m.
Wusih	. "	10.40	3.27	2.09
Changchow.	. "	11.40	4.16	3.14
Chinkiang	. "	1.25 p.m.	5.41	5.14
Nanking	. "	3.04	7.00	7.00

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Nanking	. dep.	7.30 a.m.	1.20 p.m.	11.00 p.m.
Chinkiang	. arr.	8.57	2.37	12.46 a.m.
Changchow.	. "	10.47	4.09	2.53
Wusih	. "	11.46	4.59	4.11
Soochow	. "	12.47 p.m.	5.54	5.14
Shanghai	. "	2.50	7.35	7.00

*Workshops.*—The workshops are situated at Woosung, near the bank of the Huang-p'u river. A jetty with two lines of rails has been provided, and it is equipped with shears and a crane for loading heavy materials. The workshops have not been extended since 1911, but they are well equipped with modern machinery, and in charge of a British locomotive superintendent. They are capable of undertaking all heavy maintenance and repair work, and constructional superstructure of passenger coaches and goods wagons.

*List of Stations.*—There are 37 stations between Shanghai and Nanking inclusive. Exclusive of the terminal stations and that at Soochow, they may be classified as follows :

1. Passing stations, provided with loops 2,500 ft. in length for crossing trains, and up and down passenger platforms, 25 in number. (In the list below the names of such stations are preceded by an asterisk \*.)

2. Flag stations, provided with one platform and buildings commensurate with traffic requirements, but no sidings or passing accommodation.

The platforms are 2 ft. 3 in. above rail-level.

The terminus at Nanking is on an embankment, the only possible site for the station yard being on low swampy ground on S. bank of the Yangtse, subject to annual inundation,

which involved raising the yard to an average height of 15 ft.

<i>Mileage.</i>	<i>Railway name.</i>	<i>Post Office (or Wade) name.</i>
0	*†Shanghai, North	Shanghai.
4.68	Chen-ju	Chenju.
10.70	*Nan-siang	Nansiang.
14.53	Hwang-tu	Hwangtu.
20.03	*An-ting	Anting.
26.31	*Lu-kia-pang	Lukiapeng.
30.00	Hen-li	(Hêng-li).
31.95	*†Kun-shan	Kunshan.
38.75	Chen-i	Cheni.
42.66	*Wei-ting	Weiting.
48.29	*Wai-kua-tang	Waikwatang.
51.17	Kwan-tu-li	(Kuan-tu-li).
53.47	*†Soochow	Soochow.
61.19	*Hu-shu-kwan	Hushukwan.
66.60	*Wang-ting	Wangting.
73.07	Chow-king-hang	(Chou-ching-hsiang).
76.85	Wu-sih Flag	Wusih.
79.80	*†Wu-sih	Wusih.
86.25	Tsar-down-wan	(?)
88.20	Lo-she	Loshe.
93.32	*Heng-lin	Wanglin.
97.07	Tsi-shu-yen	Chishuyen.
103.94	*†Chang-chow	Changchow Ku.
109.45	Lu-kia-tsun	(Lo-chia-ts'un).
115.01	* Pen-niu	Penniu.
119.67	Lu-cheng	Lücheng.
125.99	Ling-kow	(Ling-k'ou).
131.77	*†Tan-yang	Tanyang.
136.79	*Sin-feng	Sinfeng Ku.
147.82	Chinkiang Flag	Chinkiang.
150.34	*†Chinkiang	Chinkiang.
158.27	*Kao-tze	Kaotze.
159.86	Tan-chu	(T'an-chu-chên).

<i>Mileage.</i>	<i>Railway name.</i>	<i>Post Office (or Wade) name.</i>
165.55	*Sia-shu	Siashukai.
172.33	*†Lung-tan	Lungtan Ku.
178.26	Lone-tree-hill	(Ku-shu-ts'un).
183.94	*Yao-hwa-men	Yaohwamen.
188.41	Tai-ping-men	(T'ai-p'ing-mên).
193.32	*†Nanking	Nanking.

\* Stations with one or more sidings.

† Stations with water storage.

### *Country bordering the Railway*

The country traversed by the line may be divided into two portions, an eastern and a western, which differ widely in their main features. Taking Tanyang (mile 132) as the dividing point, the area to the E. may be regarded as flat delta country, and that to the W. as upland.

The principal characteristics of the former are flatness, numerous waterways, fertility, and dense population, in all of which respects it differs widely from the western area. It is a low-lying alluvial plain formed from the silt deposited by the waters of the Yangtse. Here and there are solitary hills rising abruptly to a height of 600 or 700 ft. above the plain; these were doubtless once islands in the sea. Every available square yard of ground is under cultivation, and villages occur literally every few hundred yards. Waterways are very numerous, and extend like a network over the whole face of the land. In the western section, on the other hand, the country is rolling and broken with comparatively few waterways. The villages, especially near Nanking, are scattered, and the population is scanty by comparison with that of the eastern section.

Generally speaking the western section is much more favourable for movement across country than the eastern, but the roads are not passable for wheeled traffic without considerable work, and its movement across country would be difficult. In the delta country there are practically no roads,

and to such an extent is the country intersected by waterways, that, although numerous paths follow the boundaries of the fields, these paths necessarily zigzag and take unexpected turns in order to reach convenient crossing-places over the creeks.

*Shanghai to Soochow.*—On leaving Shanghai station the line runs at first in a SW. direction through a rapidly growing suburb. A curve to the W. soon follows, and the line leaves the suburb and enters the delta country proper. This is entirely flat and everywhere cultivated and studded with numerous villages. Clumps of trees and groves of bamboo are interspersed with buildings and restrict the view. Innumerable graves form a characteristic feature of this country, being scattered everywhere in the form of mounds from 3 to 10 ft. high. At mile 10 the large village of Nansiang is passed. There is no other important place until we reach Kunshan (mile 32). The walled city lies to the north of the line and partly encloses an isolated hill (see *Gazetteer*). Up to this point the railway runs almost parallel to the N. bank of the Soochow Creek. About 5 miles W. of Kunshan station it crosses the Kunshan-Soochow branch of the Grand Canal, and continues through low-lying country liable to floods, and bordered on the S. side by the canal and on the N. by the Yang-ch'êng Hu, a shallow lake. Drier ground is entered upon as Soochow is approached. The railway runs parallel to the N. wall of the city for nearly 2 miles and reaches the station at mile 53.

Communications are entirely by water, and this region is generally impassable to troops except by water or railway line. Infantry and cavalry could move with great difficulty, but the country is quite impassable to wheeled traffic.

*Soochow to Chinkiang.*—Shortly after leaving Soochow the line makes a bend to the NW., and then runs parallel to, and mostly within a mile of, the Grand Canal all the way to Tanyang (mile 132). In the immediate neighbourhood of Soochow the country is low and swampy, but it then becomes undulating and broken, though still much intersected by creeks. Mulberry-trees grow in very large numbers, and these

give the country a well-wooded appearance. Wusih, which is reached at mile 80, is a small walled city, and is the chief centre of the silk industry (see *Gazetteer*). The waterway leading from Wusih to Kiangyin (see Route 14) is crossed at mile 83. The country for the first 5 miles after leaving Wusih is flat and swampy. It then rises slightly, and though flat is dry and more passable.

From Soochow onward the towpath along the Grand Canal is passable for infantry and cavalry (see Route 1A, sections 2-4). At first it is occasionally broken by unbridged creeks. Beyond Wusih creeks are much fewer and the towpath uninterrupted. Cavalry and infantry could move with some freedom in this country, but roads are impassable to wheeled traffic.

At Tanyang the country becomes more high, dry, rolling, and broken. Much of it is uncultivated grass down-land. It is sparsely wooded, and creeks are very few. Just beyond Sinfeng Ku station, at mile 137.4, the railway crosses the Grand Canal at the northern extremity of a lagoon known as the Tanyang Hu (or Lien Hu), which is as much as 10 ft. deep in summer and nearly dry in winter. The line curves W. through rising country until it reaches a ridge or watershed at mile 144. From this ridge it descends by easy gradients to Chinkiang City through undulating country necessitating heavy cuttings and a tunnel through the Fort Hill, entered at mile 149.4.

*Chinkiang to Nanking.*—From Chinkiang the line continues in a westerly direction, following the right bank of the Yangtse at a distance of from 1 to 5 miles. The country is hilly. Up to mile 175 the route followed by the line lies along the foot of the hills to the S., the country to the N., between the railway and the river, being mostly low-lying and swampy, and impassable except by raised footpaths. After mile 175 the country is more broken. It is well wooded in the hills, and there is much uncultivated grass-land; creeks are very few. The summit of the railway is reached at mile 186, the rail-level being 91.28 ft. above the I.M.C. low-water mark at Shanghai. At mile 190 the line comes within sight of the wall of Nanking. It skirts the N. wall and reaches the terminus



at mile 193, which is situated at the eastern end of the suburb known as Hsia-kuan. Close to the terminus is the Hsia-kuan station of the Nanking City Railway.

The country generally is passable for all arms, though it would be difficult for wheeled traffic on account of the absence of suitable roads. The road from Chinkiang to Nanking is never far from the railway. It is passable for cavalry and infantry and would be available for a force marching alongside the railway. (For further details see Route 17 A.)

### *Branch Lines*

The Shanghai-Woosung and the Nanking City railways, which may be looked upon as branches of the Shanghai-Nanking line, are dealt with below. In addition, there is a short line at Chinkiang connecting the main station with the Chinkiang Bund station on the banks of the Yangtse River.

### *Connexions with other Railways*

With the completion of the Shanghai Loop Line (see below) direct communication between the Shanghai-Nanking and the Shanghai-Hangchow lines has been established.

At Nanking the line has two termini: one on the bank of the Yangtse, at Chiang-pien (Kiang-pien), where a railway ferry conveys passengers to the southern terminus of the Tientsin-Pukow railway, and another,  $\frac{1}{2}$  mile to the S., near Hsia-kuan station on the Nanking City Line.

Finally, the new Nanking-Hunan railway will be connected with the Shanghai-Nanking line outside the NE. corner of the city.

## II. SHANGHAI-WOOSUNG (OR SUNG-HU) RAILWAY

The history of the railway has been outlined above (see p. 98). In 1898 the line was reconstructed with the aid of Chinese capital. It was subsequently amalgamated with the Shanghai-Nanking line under the terms of the agreement of July 9, 1903.

The line is 10.2 miles in length and connects the Shanghai

terminus of the Shanghai-Nanking railway, outside the N. limit of the International Concession, with Woosung, the port for ocean-going steamers.

As the country is intersected by creeks many bridges had to be constructed; the most important have been described in Route 8 A. There are no tunnels.

At Woosung the railway possesses a large water frontage and a jetty equipped with shear legs and crane for landing heavy materials.

### *List of Stations*

<i>Railway name.</i>	<i>Post Office (or Wade) spelling if different.</i>
Shanghai, North.	
Changwan	Kiangwan.
Changwhapang	(Chang-hua-pêng).
Woosung Creek.	
Woosung Forts.	

### *Country bordering the Railway*

A full description of the country through which the railway passes will be found in Route 8.

## III. SHANGHAI LOOP LINE

When the Shanghai-Nanking and the Shanghai-Hangchow railways passed under the same management a scheme was elaborated in 1914 to connect the two termini at Shanghai by a loop line. This has now been carried into effect.

The new line, 10½ miles long, leaves the Shanghai-Nanking line about 2 miles W. of Shanghai North Station, runs S., crossing Woodlands Creek near Ferry Road, the Soochow Creek near St. John's University and Jessfield Park, Fahwa Creek, Sikawei Creek, and Lunghwa Creek, and joins the Shanghai-Hangchow line at Lunghwa Junction.

The chief bridges span the Soochow Creek (145 ft.) and the Sikawei Creek (65 ft.). All bridges are built to accommodate a double track. An important station has been opened at Jessfield, and another at Sikawei.

## IV. NANKING CITY LINE (OR KIANG-NING RAILWAY)

Whilst the Shanghai-Nanking railway was under construction a line was built to connect the terminus of the main line with the heart of the city. The funds were provided by the Provincial Government and the work was supervised by a British engineer. It was opened in August, 1908. Owing to bad management it has failed so far to yield a profit.

The line, about 8 miles long, though of standard gauge, was not built for heavy traffic. If, as has been proposed, it were incorporated in the projected Nanking-Hunan line (see below, railway No. XIII) it would have to be entirely relaid.

The head of the railway is in Hsia-kuan, the port of Nanking, near the hulks of the Nanking-Pukow ferry.<sup>1</sup> From there the line runs E., crossing the Chin-huai Ho by a bridge. Turning SE. it passes near the terminus of the Shanghai-Nanking main line, and follows a portion of the N. wall of the city. It enters the latter through the Chin-ch'uan Mên (Chintswan Mên), an old gate E. of the Naval College and NE. of the British Consulate. The first stopping-place inside the city is San-p'ai-lou near the German and American Consulates. The line ends in the SE. corner of the city, the terminus being within the walls (see *Gazetteer*, Nanking). The journey takes about 25 minutes.

*List of Stations*

<i>Railway or local Spelling.</i>	<i>Wade Spelling.</i>
Kiang-kou	Chiang-k'ou.
Sia-kwan	Hsia-kuan.
San-pai-lou	San-p'ai-lou
Ting-ka	Ting-chia.
Wu-liang-an	
Tu-tu-fu.	
Chung-tsên-kai	Chung-chêng-chieh.

<sup>1</sup> It should be noted that passengers from the Tientsin-Pukow line, who are provided with through tickets for the Shanghai-Nanking Railway, are landed at Chiang-pien (Kiang-pien), the river station on the main line, which is nearly a mile further down the river.

### V. SHANGHAI-HANGCHOW-NINGPO (OR HU-HANG-YUNG) RAILWAY

The British and Chinese Corporation secured in 1898 the concession for the construction of a railway from Soochow to Hangchow, with an extension to Ningpo if necessary. Some years, however, elapsed before the Corporation found itself in a position to commence work, and in the meanwhile two Chinese companies (the Kiangsu and the Chekiang railway companies) were organized for the construction and operation of a line between Shanghai and Hangchow. An Imperial Edict of 1905 placed the rights of construction in the hands of these two companies, and work was commenced. This action, being in contravention of the terms of their concession, called forth a remonstrance from the British company, and after some further discussion China agreed in 1908 to issue a loan of £1,500,000, through the British and Chinese Corporation, for the expenses of the construction of the railway. Supervision over the construction was to be exercised by British engineers and preference given to British goods. These conditions, however, were not carried out, and the Ministry of Communications virtually surrendered the construction and control of the line into the hands of the two provincial companies. Actual work began in 1906, and the line from Shanghai to Hangchow was opened in August 1909. Some construction was also started from the Ningpo end of the Hangchow-Ningpo section. The companies got into financial difficulties, and in October, 1914, the railway, together with rolling-stock and equipment, was taken over by the Chinese Government and brought under the same management as the Shanghai-Nanking Railway. The 1908 agreement has at last been carried out, and the line is now administered under an engineer-in-chief, a traffic manager, and a chief accountant, all three of British nationality.

With regard to the Hangchow-Ningpo extension 53 miles have been completed, and the whole section from Ningpo to Shaohingfu will be available for traffic very shortly. But the last section (some 45 miles) is being delayed owing to the difficulties of bridging the Ch'ien-t'ang river near Hangchow.

*General Description*

The length of the whole line, when completed, will be about 220-30 miles, of which only some 38 miles are in Kiangsu, the rest being in the Province of Chekiang.

*Track.*—The line is single throughout and is of the standard 4 ft. 8½ in. gauge. 75- to 80-lb. rails in lengths of 9 metres have been used; these rails were rolled at Hanyang iron works. The sleepers are of Japanese hardwood of very poor quality, and require constant renewing. No chairs are used, the rails being spiked to the sleepers by means of iron dog-spikes 4 in. in length (13 sleepers have been laid down to every 30 ft.). The line is insufficiently ballasted in places. The ballast is of limestone to an average depth of 15 or 16 in.

*Curves and gradients.*—The country traversed by the line is entirely flat. The ruling gradient used in approaches to bridges is 1 in 300. The sharpest curve is one of 1,320 ft. radius.

*Bridges.*—The bridges are very numerous; thus, apart from culverts, there are no less than 48 between Shanghai and Fengking, a distance of 38 miles. They comprise a great variety of types, and have been the subject of much discussion, especially the two which span the branches of the Huang-p'u river at miles 27·35 and 29·89, these being the largest and most important on the whole line. The first of these bridges measures 440 ft. in length and is 32 ft. above water-level. Its construction was most difficult, on account of the rapid current of the stream, with a depth there of 40 ft. The other bridge is 400 ft. long. Both consist of two through spans of 200 ft. each; in the opinion of some experts they have been badly built and are weak points on the line. Other important bridges on the Shanghai-Hangchow section are as follows:

At mile	1·56	.	.	.	one span of	60 ft.
„	23·62	.	.	.	„ „	62 ft.
„	25·23	.	.	.	„ „	102 ft.
„	31·8	.	.	.	two spans of	100 ft.
„	68	.	.	.	one span of	60 ft.

On the Hangchow-Ningpo section bridgework is also very heavy, the chief bridges being at Pokwan over the Ts'ao-o (almost completed in 1914, but construction delayed through the war) and a bridge across the Ch'ien-t'ang river. The position of the latter has not yet been definitely settled upon. According to the original survey it was to cross from Cha-k'ou. In order to reduce the length of the bridge it is now proposed to cross the river at Fuyanghsien, but the shifting bottom of the river presents here too a well-nigh insuperable obstacle.

There are no tunnels on this line.

*Rolling-stock.*—The total amount of rolling-stock available for use on the line in December, 1915, can be classified as follows :

**Locomotives :**

	<i>Type.</i>	<i>Number.</i>
Passenger . . .	4—4—0 . . .	12
Goods . . .	2—6—0 . . .	10
„ . . .	2—8—0 . . .	2
Shunting . . .	0—8—0 . . .	1
„ . . .	0—6—0 . . .	11
Total . . .		<u>36</u>

**Carriages :**

	<i>Number.</i>	<i>Total carrying capacity.</i>
First-class cars, ordinary . . .	9	310 men.
Second-class cars, ordinary . . .	11	598
Third-class cars, ordinary . . .	60	4,431
Coolie-class cars . . .	10	1,064
<b>Composite :</b>		
First- and second-class diners . . .	4	188
„ „ ordinary . . .	4	256
Kitchen cars . . .	2	
Brake and baggage vans . . .	9	
Postal vans . . .	2	
Heating and lighting cars . . .	2	
Totals . . .	<u>113</u>	<u>6,847</u>

## Goods wagons :

	<i>Number.</i>	<i>Total carrying capacity.</i>
Covered . . . . .	231	6,750 tons.
Open . . . . .	267	7,750
Adapted for special purposes	28	520
<b>Totals . . . . .</b>	<b>526</b>	<b>15,020</b>

*Speed.*—Trains cover the distance from Shanghai to Hangchow in about 5 hours including stops, as compared with 24 hours by steam-launch.

*Workshops.*—For minor engine repairs and overhauling there are shops at Kung-ch'ên-ch'iao (Kon-zen-chiao), which is on a short branch line running from Hangchow to the Foreign Settlement on the Grand Canal, but all major work is now done in the Shanghai-Nanking shops at Woosung.

*List of Stations (as far as Hangchow)*

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
0	Shanghai, South	Shanghai	Kiangsu
	Kao-chang-miao	(Kiangnan)	"
3.25	Lung-hwa	Lunghwa	"
7.00	Mei-kai-lung	(Mei-chia-lung)	"
10.00	Hsin-chwang	Sinchwang Ku	"
14.75	Hsin-chiao	(Hsin-ch'iao)	"
20.25	Ming-hsin-chiao	(Ming-hsing-ch'iao)	"
22.00	Sung-kiang	Sungkiangfu	"
28.75	Shih-hu-tang	(Shih-hu-tang)	"
38.00	Fung-chin	Fengking	"
44.25	Ka-shai	Kashan	Chekiang
56.00	Ka-shing	Kashing	"
66.25	Wang-tien	Wangtien	"
72.75	Yeh-zah	Siashih	"
81.00	Hsia-chiao	(Siehkiao)	"
85.00	Chow-wang-miao	Chowwangmiao	"
88.75	Chang-an	Changan	"
94.25	Shü-chung	Sütsun Che	"

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
98-25	Lin-ping	Linping	Chekiang
106-25	Shien-chiao	Kienkiao	„
110-50	Ken-shang-mun	(Kên-shan Mên)	„
113-00	Hangchow	Hangchow	„
115-00	Nan-shin-chiao	(Nan-hsing-ch'iao)	„
117-00	Zah-kou	(Cha-k'ou)	„

### *Country bordering the Railway*

The station at Shanghai is S. of the Chinese city, near the Lao-chia-pang quarter. The line runs SW., passing N. of the Chiang-nan Arsenal. At Kiangnan sidings branch off to the high-level wharves on the Huang-p'u river.

Between Shanghai and Hangchow the railway traverses a uniformly flat country, well cultivated, but much intersected by creeks. There are practically no roads, though in most cases towing-paths will be found along one or both banks of creeks. As far as Kashing the railway runs to the N. of the main launch route, and generally at no great distance from it (see Route 3). Beyond Kashing the railway turns S. away from the Grand Canal. By doing so it avoids the competition of water-borne traffic; on the other hand it passes through no important cities. It reaches the NE. corner of Hangchow near Kên-shan Gate, follows the E. wall of the city, and ends a few miles beyond at Cha-k'ou (Zah-kou) on the Ch'ien-t'ang river.

### *Branch Lines*

(A) **Kung-ch'ên-ch'iao** (Kon-zen-chiao) branch connects the Foreign Settlement on the banks of the Grand Canal, to the N. of Hangchow, with the Shanghai-Hangchow main line, the junction taking place at Kên-shan Mên station. The line was built by local enterprise and completed in 1907.

The distance from Kung-ch'ên-ch'iao to Kên-shan Mên is only 4-6 miles. The line is single and of standard gauge.

(B) **Kashan-Chapu** branch was projected in 1909, but has not yet been constructed.



*Connexions with other Railways*

The Shanghai terminus is now connected with the Shanghai-Nanking Railway by means of a loop line (see above).

Various schemes have been floated by provincial companies to link up Hangchow with some of the more important cities of the province of Anhwei. A line from Wuhu to Hangchow was started in 1906, but only a small section from the Wuhu terminus was completed. The project to build a line from Hweichow to Hangchow has recently (1916) been revived. Far more important, however, is the proposal to link up the Nanking-Hunan system with Hangchow or Kashing. The results would be far-reaching for Hangchow, which would thereby grow into an important railway junction.

## VI. TIENTSIN-PUKOW (OR CHING-P'U) RAILWAY

This railway constitutes a continuation of the Shanghai-Nanking line and, together with the latter, affords the best inland communication between South and North Kiangsu, notwithstanding the fact that it lies chiefly in the province of Anhwei and only crosses Kiangsu at two points. The southern section of the railway runs almost exactly parallel to the sea-coast and to the Grand Canal, the latter occupying a half-way position between the other two.

The first scheme to connect Tientsin with the Yangtse River dates back to 1897, but it fell through mainly as a result of the German occupation of Kiaochow. Soon after negotiations were renewed, and in 1899 a provisional agreement was signed by which the concession was shared by Great Britain and Germany. The southern terminus of the line was to be located at Kwachow, opposite Chinkiang. In the final agreement (1908) a new alinement was secured, and the southern terminus altered to Pukow Ku opposite Nanking. The northern section as far as the border of Kiangsu was constructed under German direction (approximately two-thirds of the total length), and the southern section under British direction. After the completion of the bridge across the

Yellow River the whole line was opened (December, 1912) and through trains were run between Tientsin and Pukow Ku. In accordance with the terms of the agreement the line was handed over to Chinese management, and has not been maintained in a very efficient condition. Traffic is increasing very satisfactorily in spite of harassing exactions by likin officials, and the line is now paying its way.

### *General Description*

Total length 628·38 miles (of which only  $61\frac{1}{2}$  are in Kiangsu).

*Track.*—The line is of the standard (4 ft.  $8\frac{1}{2}$  in.) gauge and is single throughout, except from the workshops at Pukow Ku to the wharf, where it is double. The rail used in the northern section is a flat-bottomed rail in lengths of 10 metres, weighing between 76 and 90 lb. per yard. On bridges 15-metre rails are used. In the southern section an 85-lb. rail of British standard section, in lengths of 30 ft., has been used. The rails are laid directly on the sleepers, the latter being of Japanese hardwood and pine. Broken bricks were used as ballast between Tientsin and Tsinan. The track has been very well laid. In the section north of the Yellow River traffic is occasionally stopped by floods.

*Curves and gradients.*—In the northern section the sharpest curve is one of 1,968 ft. (600 metres) radius, and the steepest grade is 1 in 150. In the southern section there are no curves of less than 2,000 ft. radius, while the ruling gradient is 1 in 150 south of Pengpu (mile 108) and 1 in 200 north of it.

*Bridges.*—The country traversed by the line has called for a very considerable amount of bridging. In the southern section there are no less than 299 bridges in 236 miles; an average of 74 linear ft. per mile. In the northern section the bridge work is even heavier. The most important of all is the bridge over the Huang Ho or Yellow River. It is one of the longest in China, and consists of nine 91·5-metre (300-ft.) 'subdivided-panel Warren trusses' and three cantilever spans (over the

main channel), made up of two anchor-arm spans of 128.1-metres (420 ft.) and a central span of 164.7 metres (540 ft.). Rail-level is 50 ft. above low water, while total length of bridge is 1,255.2 metres (4,116 ft.). The contractors were the bridge-building establishment of the Augsburg-Nürnberg Machine Company.

Next in importance comes the bridge over the Huai Ho (mile 108.5 from Pukow). It consists of nine through spans of 200 ft. each, 1,876 ft. between abutments, supported on 8 piers each  $9\frac{1}{2}$  ft. thick, and varying in height from 55 to 110 ft., constructed of reinforced concrete, with granite caps. Rail-level is 45 ft. above low water. Just north of this a shallow lake is crossed by a plate-girder bridge, 62 spans of 30 ft. each. At mile 135.5 the line crosses the Kuei Ho over a fine bridge of 22 spans, one being a through span of 200 ft. and the others deck spans of 30 ft. each. North of Süchowfu there are two bridges of interest. One, at mile 216, consists of 10 spans of 30 ft. each and one of 100 ft. The other, at mile 219, has 20 spans of 30 ft. each. Both bridges are built of stone. An important bridge crosses the Grand Canal just south of Hanchwang (mile 238). In Shantung the bridge work is very heavy, but builders had the advantage of securing solid foundations and of procuring splendid stone (both granite and limestone) close at hand. Between Lincheng Sung (mile 254) and Kiehho (mile 284.5), a distance less than 31 miles, the track passes over no less than 9 considerable streams involving big bridges.

There are no tunnels on this line

*Rolling-stock.*—The line was originally worked in two sections: the northern or German section extending from Tientsin to Likwoyi, and the southern or British section from Likwoyi to Pukow Ku. For the former no returns of the rolling-stock were available; for the latter the following return was made on June 30, 1914:

## A. Locomotives :

2	2-6-2 shunting tank-engines.
4	2-6-0 „ tender-engines.
14	2-6-0 mixed traffic tender-engines.
12	4-6-0 passenger tender-engines.

Total     32

## B. Passenger cars :

2	private cars.
3	first-class cars.
3	first-class sleeping cars.
4	first-class dining cars.
4	first- and second-class composite cars
5	second-class cars.
23	third-class cars.
4	third-class and brake-van composite cars.
4	baggage cars.
6	inspection cars.
8	30-ft. brake vans.

Total     66

## C. Goods wagons :

160	ballast wagons	30	tons capacity
100	high-sided goods wagons	30	„ „
30	covered goods wagons	30	„ „
180	„ „	20	„ „
39	„ „	15	„ „
20	flat wagons	30	„ „

Total     529

## D. Mud wagons :

98 mud wagons for construction purposes.

*Speed.*—Excluding a few mixed trains, running on short sections only, there was in April, 1916, one mail train in each direction daily. Leaving Tientsin at 12.40 p.m., it reached Süchowfu on the following morning at 9.3, and Pukow Ku

at 6.23 p.m., after a journey of 29 hours 43 minutes. From the Pukow Ku terminus the train left at 9.45 in the morning, reached Süchowfu at 7.15 p.m., and Tientsin on the following day at 3.2 p.m., the total distance being covered in 29 hours 17 minutes. In addition to the above, two express trains, one in each direction, travelled once a week between Tientsin and Pukow Ku, covering the whole distance just under 25½ hours, including stops.

*Workshops.*—The workshops for the southern section of the line are situated at P'ü-chên near the Pukow Ku terminus, inside the old city walls. Those for the northern section were (1912) temporarily at Tsinan. Both are amply equipped with modern machinery. There are also some railway works at Süchowfu.

*List of stations.*—The following list includes all stations between Pukow Ku and Tsinan. The mileage is reckoned from Pukow Ku. The spelling given is that in use on the railway. Transliteration according to Post Office, or, failing that, Wade's system is given throughout.

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
0	*Pukow Wharf	Pukow Ku	Kiangsu
2½	*Pukow City or Puchen	(P'ü-chên)	"
7½	Huachiying	(Hua-chi-ying)	"
14½	Tungko	(Tung-ko)	"
20½	Wu I	Wuyi An	Anhwei
30¾	Chuchow	Chuchow An	"
39	Shahochi	Shahotsi	"
45¼	Changpaling	Changpalin	"
53	Sanchieh	Sankieh	"
60¼	Kuantien	Kwantien An	"
70¾	Mingkuang	Mingkwang	"
81¼	Hsiaohsiho	Siaokiho	"
93½	Linhuaikuan	Linhwaikwan	"
99¼	Mentaitze	(Mên-tai-tzü)	"
108½	*Pengpu	Pengpu	"
117½	Tsaolaochi	(Tsao-lao-chi)	"

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
126 $\frac{1}{4}$	Hsinchiao	(Hsin-ch'iao)	Anhwei
135 $\frac{1}{4}$	Kuchen	Kuchen An	"
144 $\frac{3}{4}$	Jenchiao	(Jên-ch'iao)	"
154 $\frac{1}{2}$	Hsishihpo	(Hsi-shih-p'u)	"
164 $\frac{1}{2}$	Nanhsuchow	Suchow An	"
173 $\frac{1}{4}$	Fulichi	Fulitsi	"
183 $\frac{1}{2}$	Chiakou	(Chia-kou)	"
192	Tsaotsun	(Tsao-ts'un)	"
201 $\frac{1}{2}$	Sanpu	(San-p'u)	Kiangsu
211	*Hsuchowfu	Süchowfu	"
218 $\frac{1}{2}$	Maotsun	(Mao-ts'un)	"
224 $\frac{1}{4}$	Liuchuan	(Liu-chuang)	"
233 $\frac{1}{4}$	Likuoyi	Likwoyi	"
238 $\frac{1}{2}$	Hanchuang	Hanchwang	Shantung
247 $\frac{3}{4}$	Shakou	Shakow Sung	"
254	*Lincheng	Lincheng Sung	"
263 $\frac{1}{2}$	Kwanchiao	Kwankiao Sung	"
270	Nanshaho	(Nan-sha-ho)	"
276 $\frac{1}{2}$	Tenghsien	Tenghsien	"
284 $\frac{1}{2}$	Chiehho	Kiehho	"
294	Lianghsiatien	(Liang-hsia-tien)	"
300 $\frac{1}{2}$	Tsowhsien	Tsowhsien	"
313	*Yenchowfu	Yenchowfu	"
323 $\frac{1}{4}$	Chufou	Küfow	"
329 $\frac{3}{4}$	Wutsun	Wutsun	"
340 $\frac{1}{2}$	Nan I	Nanyi	"
347 $\frac{1}{2}$	Tawenkou	Tawenkow	"
357	Tungpaipu	(Tung-peï-tzü-p'u)	"
365 $\frac{1}{2}$	*Taianfu	Taianfu	"
373 $\frac{3}{4}$	Chiehshu	Kiehshow Sung	"
381	Wanteh	Wanteh	"
389	Changhsa	Changsia	"
393 $\frac{1}{2}$	Kushan	Kushan Sung	"
401 $\frac{3}{4}$	Tangchiachuang	(Tang-chia-chuang)	"
410 $\frac{1}{2}$	*Tsinanfu	Tsinan	"

\* Stations with watering, engine-changing, and siding accommodation.

*Country bordering the Railway*

Starting from the river-side, where a wharf has been built, the railway runs for  $2\frac{1}{2}$  miles through low ground which is periodically invaded by the Yangtse River, and across which an embankment, averaging 12 ft. in height, had to be constructed. This portion of the railway has a double line, a special line of rails being laid down to connect the workshops with the terminus.

At mile  $2\frac{1}{2}$  the railway enters the old city of Pukow Ku, passing through a gap in the city wall, and immediately inside are the workshops. This station is known as P'u-chên or Pukow City station. Beyond it the railway passes out of the city again, making its exit through a cutting some 90 ft. deep and about 1,000 ft. long, through a gap in hills which run nearly parallel to the course of the Yangtse. Up to mile 6 there is a succession of heavy cuttings and embankments, most of the former having rock in them. From mile 6 to mile 9 the work was comparatively easy, though the latter portion is on a high embankment. Beyond this point, for 4 miles, some low ground had to be crossed, which is below the level of the adjacent rivers, and consequently rarely dry. The rivers are excluded by high flood-banks which occasionally burst in flood-time, and to ensure the safety of the railway it has been necessary to support it on an embankment averaging 20 ft. high. Great difficulty was experienced in raising the embankment, as no solid foundation was found. From mile 13 to mile 39 the country is fairly level and well cultivated, although less fertile than the plains north of the Huai River (chief agricultural products sesame, Indian corn, pea-nuts, rice). As the plain is liable to floods, embankments and minor cuttings alternate with bridges.

The line leaves the province of Kiangsu south of Wuyi An, at mile  $17\frac{1}{4}$ , and does not re-enter it until about mile 193, the intermediate section lying in the province of Anhwei.

Beyond mile 39 the line enters a range of low hills which

form the watershed between the Yangtse and the Huai River. Through these a practicable route has been found, by going some miles to the E. of the main road (see Route 37). There is a steady rise, culminating three miles N. of Changpalin, at mile 48 $\frac{1}{4}$ , which constitutes the highest point on the line S. of the Huai River (344 ft. above railway datum). The construction of this section was very difficult. Rock cuttings up to 40 ft. in depth alternate with high embankments, with numerous bridges and culverts, while the railway winds about in the most tortuous manner, in order to obtain the gradient of 1 in 150 which was fixed as the maximum.

The descent to the Huai valley is gradual, but involves passing through deep cuttings at several places and crossing the Chi Ho at Mingkwang (mile 70 $\frac{3}{4}$ ). The river drains a very large area, and in time of heavy rain its lower courses become long narrow lakes. The line now enters a very flat but not particularly productive country. After passing between two considerable but very shallow lakes, it reaches Pengpu, a farming village which, thanks to the railway, has grown into an important town on the banks of the Huai. (It is only 40 ft. above the level of Pukow Ku.) The bridge which spans the river at this point has been described above. On the northern bank of the Huai River the railway crosses a shallow lake and enters an immense plain, well cultivated and very fertile. It is specially famed for its water-melons (ripe at the end of July), but produces also kaoliang, millet, pea-nuts, wheat, cotton, and hemp. The chief localities touched by the railway are Kuchen An (mile 135), with a prosperous junk traffic, and Suchow An (mile 165), a large walled town. Here the first stone bridge is found, the line having entered a stone country. From Kuchen An there is a steady rise to mile 227, just beyond Liu-chuang, where the road-bed is 397 ft. above railway datum. Beyond mile 193 the line lies again in the province of Kiangsu and passes the flourishing city of Süchowfu. Before reaching the station the railway traverses the old bed of the Yellow River, and continues north through rocky and fairly wooded country. At Liu-



chuang it meets the ancient paved main road to Peking. Below Hanchwang (mile 237) it passes into the province of Shantung and crosses the Grand Canal by an important bridge. Thence to Yenchowfu the line lies through a flat piece of country largely drained by the Grand Canal. From Yenchowfu there is a steady up gradient to a point  $2\frac{1}{2}$  miles south of Nanyi, where the line crosses the watershed between the Yangtse and the Yellow Rivers (410 ft. above sea-level).

From Nanyi the railway seeks the higher land along the foot of the Shantung Mountains. By following this course the danger from the Grand Canal floods is obviated on this section; but the nature of the country has involved heavy bridge and culvert work. The streams over which the bridges in this district are built have very wide beds, and during heavy rains they carry down an enormous volume of water, necessitating more solid bridge work than would be necessary under ordinary conditions. From Tawenkow (mile 347) the line rises steadily to Taiianfu, near the sacred mountain of T'ai Shan, and the rise is continued to Kiehshow Sung, the highest point on the line, after which there is a drop to Tsinan, the capital of Shantung.

### *Branch Lines*

(A) From **Lincheng Sung** (in province of Shantung, mile 254 from Pukow Ku) to **Tsaochwang**, to serve coal mines in the Yihsien district. The line is 19 miles long and was opened May, 1912.

(B) From **Yenchowfu** (in Shantung, mile 313 from Pukow Ku) to **Tsining**, an important town on the Grand Canal (see Route 19 II). The line is nearly 20 miles long and was opened to traffic November, 1912.

(C) From **Lokow** (in Shantung, mile  $414\frac{1}{2}$  from Pukow Ku) to **Huang-t'ai-ch'iao**, a port on the Yellow River. Constructed originally as a narrow-gauge salt line, it was widened to standard gauge in 1913. Length  $5\frac{1}{2}$  miles.

*Connexions with other Railways*

At the Pukow Ku terminus the railway company run frequent steam-ferries across the Yangtse River (time of crossing about 5 minutes) to convey passengers to and from the Nanking terminus of the Shanghai-Nanking Railway (see railway No. I). This service is bound to increase further when the projected line from Nanking to Changsha is completed (see railway No. XIII). On the north side of the Yangtse the construction of the Pukow-Sinyangchow line (see railway No. IX) will tap the trade of the province of Anhwei and link up Pukow Ku with the Peking-Hankow line.

At Süchowfu the line meets the Kaifeng-Süchowfu trunk (see railway No. VII) and secures a connexion with the Peking-Hankow Railway. A line to Ichowfu and Tsingtau is also projected (see railway No. XVIII).

At Tsinan it links up with the Shantung system.

(*Note.*—The line from Tsinan to Tsingtau was opened in 1904. Other lines, including Tsinan-Shuntehfu, Kaomi-Ichowfu-Hanchwang, Chefoo-Weihsien, &c., are projected.)

Finally, at Tientsin the line joins the important Peking-Tientsin-Moukden Railway, through which direct communication by rail with Europe is secured.

**VII. KAIFENG-SÜCHOWFU RAILWAY**

The Kaifeng-Süchowfu Railway is a section of a great trunk line, usually referred to as the Lung-Hai (Lung-Ts'in-Yü-Hai) or the Hai-Lan (Lanchow-to-the-Sea) Railway, which will run at right angles to the Peking-Hankow and Tientsin-Pukow lines and extend railway facilities to the provinces of Shensi and Kansu. It is even contemplated to continue the line some 1,900 miles W. of Lanchowfu, in order to link it up with the Russian Central Asian and Trans-Siberian systems. A preliminary agreement with a Belgian syndicate (*Compagnie Générale de Chemins de fer et Tramways en Chine*, of Brussels) for a loan of £10,000,000 was signed in October, 1912.

It was understood that both France and Russia were lending financial support to the enterprise.

Local companies had previously started work on certain sections, e.g. the Kiangsu Railway Company (Su-Lu Kung-ssü) on the Süchowfu-Tsingkiangpu section (see below), the Hsi-T'ung Company on the Tungkwanting-Honanfu section; whilst a Belgian syndicate had actually completed and opened to traffic in 1909 the Kaifeng-Honanfu section, previously known as the Pien-Lo Railway. All these lines have been bought up and merged in the larger scheme.

The outbreak of the European war and the subsequent withdrawal of many of the Belgian engineers, and what was more serious still, of foreign capital, considerably hampered progress of construction without, however, bringing it to a standstill. The work was continued by Chinese engineers and some money was obtained locally. A successful loan of \$7,000,000, raised at the end of 1915, momentarily relieved the company of financial anxiety. At the present time (1916) the line has been completed from Süchowfu in the E. to Kuan-yin-t'ang (beyond Mienchih) in the W. The line is under construction as far as Tungkwanting, but progress is slow on account of great engineering difficulties which have to be overcome.

A problem that has caused considerable discussion is the sea terminus of the railway. It was originally intended to extend the line from Süchowfu, where it connects with the Tientsin-Pukow railway, to Haichow. The scheme, however, is unlikely to be carried out. The cost of making a harbour at or near Haichow would be quite prohibitive without the prospect of any corresponding results in the shape of trade, especially owing to the competition of Tsingtau, with which port Süchowfu is likely to be directly connected in the near future (see railway No. XVIII). It has therefore been suggested to establish the terminus at some port on the Yangtse, at Tungchow or at Haimenting, but although ample and good anchorage is available at both places there are insuperable objections to them as riverine towns inasmuch as the convex

parts of the bank are continually being cut away. The river is in a state of flux and no one can tell what may happen. Moreover such a line, if constructed, would provide rail communication in competition with the southern or British section of the Tientsin-Pukow Railway. In view of these difficulties it is not unlikely that Süchowfu may remain the eastern terminus of the Lung-Hai Railway.

*Track.*—The Kaifeng-Süchowfu section was completed in June, 1915. It consists of a single track of standard gauge, 175 miles in length.

*Rolling-stock.*—The rolling-stock was acquired partly in Belgium (?) and partly at Pukow Ku. No detailed returns are available, but it is believed that recently the Pukow Ku works supplied the company with 3 or 4 heavy shunting-locomotives, 50 40-ton low-sided ballast wagons with sides so attached that they could be easily removed if wagons were used as 'flats', and 50 40-ton covered goods wagons.

#### VIII. TSAOCHWANG-TAIERHCHWANG RAILWAY

This railway is the property of Tsaochwang Coal Mines near Yih sien, and was originally built (opened 1910) to convey the coal to the Grand Canal. The line lies entirely within the province of Shantung, but Taierhchwang, the Grand Canal terminus, is close to the border of Kiangsu.

The track is single and of standard gauge, 26 miles in length. Rolling-stock, stations, &c.—No details available.

At Tsaochwang the line connects with a small branch (Lincheng Sung-Tsaochwang) of the Tientsin-Pukow Railway. Railway trucks can pass from one line to the other and reach the main line at Lincheng Sung, but passengers have to change at Tsaochwang.

The construction of the Kaomi-Hanchwang line will place Tsaochwang in direct railway communication with the port of Tsingtau.

## (B) RAILWAYS UNDER CONSTRUCTION

### IX. PUKOW-SINYANGCHOW (OR PU-HSIN) RAILWAY

The object of the line is to link up the Tientsin-Pukow with the Peking-Hankow and thus ultimately provide railway connexion between Shanghai and Szechwan. It leaves the Tientsin-Pukow line at Wuyi An near the border of Kiangsu (about 20 miles N. of Pukow Ku), and will connect with the Peking-Hankow about 3 miles SE. of Sinyangchow. The railway lies entirely within the provinces of Anhwei and Honan.

A final agreement for a loan to provide capital for the construction of this line was signed on November 4, 1913, between the Chinese Government and the Chinese Central Railways Ltd. It superseded an earlier agreement dated January 6, 1899. The loan is for £3,000,000 at 5 % and for a term of 40 years.

The following are the chief conditions : the loan is secured by a mortgage on the railway. The period of construction is estimated at three years from commencement of work, which should be within six months. Construction and control to be vested entirely in the Chinese Government, who will appoint the director-general. The engineer-in-chief will be a British engineer chosen by the director-general, with the consent of the company, and a British chief accountant will be responsible for the disbursement of loan funds. (After completion of the railway, the British engineer-in-chief and the British chief-accountant will be succeeded by a British maintenance-engineer and a British traffic-manager.)

The survey was completed in 1914, and the construction of the track was commenced, but on the outbreak of the European War work had to be suspended for lack of funds. An attempt to float a loan of Tls.12,000,000 in Shanghai proved abortive.

The estimated length of the line is 285·6 miles. Work was begun from Wuyi An, and the embankments have

been completed for about 9 miles. 85-lb. rails will be used.

*Curves and gradients.*—The line passes through rolling country and few sections will be comparatively level. The highest point is reached at Sinyangchow, 366 ft. above the datum of the Tientsin Pukow Railway. The lowest point is 10 miles W. of Wuyi An. Difference between highest and lowest point is 224 ft. The ruling gradient is 1 in 200; the sharpest curves have a radius of 3,000 ft.

*Bridges.*—The bridge-work on this line will be considerable. A large bridge will be constructed across the Pi Ho near Liuanchow (mile 123); other large bridges will chiefly be required on the western section of the line, beyond mile 178; but high bridges of a 100-ft. span will, however, be constructed at various points throughout the whole length of the railway. It is estimated that there will be about :

10,000 linear ft. of bridge-work of 20 ft. span and under

2,500	„	„	30	„	„
3,000	„	„	60	„	„
6,000	„	„	100	„	„

There will be no tunnels.

### *List of (proposed) stations*

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
0	Wu-i	Wuyi An	Anhwei
6½	Chieh-shou	(Chieh-shou)	„
13½	Chüan-chiao-hsien	Chüantsiao	„
23½	Hsiao-chi-tzũ	Siaotsi An	„
34	Ta-shu-chieh	Tashukai	„
42½	Lan-kan-chi	(Lan-kan-chi)	„
49½	Wên-chi	(Wên-chia-chi)	„
54	Shih-tang-chiao	(Shih-t'ang-ch'iao)	„
59½	Chang-chia-miao	(Chang-chia-miao)	„
64½	Tien-pu	Tienfow	„
70½	Er-shih-li-pu	(Êrh-shih-li-p'u)	„

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>	<i>Province.</i>
76	Lü-chou-fu	Lüchowfu	Anhwei
83½	Ta-tu-shan	(Ta-tu-shan)	"
88¼	Hsiao-tu-shan	(Hsiao-tu-shan)	"
96¾	Ta-pai-tien-tzü	(Ta-pai-tien-tzü)	"
101	Kuan-ting-chên	Kwanting An	"
109	Chin-ch'iao	Kinkiao	"
115	San-shih-li-pu	(San-shih-li-p'u)	"
123	Liu-an-chou	Liuanchow	"
132½	Hsü-chia-chi	(Hsü-chia-chi)	"
137	Chin-shu-tien	(Chin-shu-tien)	"
144¾	Hung-chia-chi	(Hung-chia-chi)	"
150¼	Hsi-kao-tien	(Hsi-kao-tien)	"
155	Wu-lung-miao	(Wu-lung-miao)	"
160½	Lu-chia-tien	(Lu-chia-tien)	"
164¼	Liu-chi	(Liu-chi)	Honan
170	Ching-hê-chi	(Ch'ing-ho-chi)	"
175	Liu-shu-tien	(Liu-shu-tien)	"
180½	Ku-shih-hsien	Kushihsien	"
186¼	Yang-kuan-pu	(Yang-kuan-p'u)	"
192	Hu-hsu-pu	(Hu-shu-p'u)	"
199	Chun-hê-pu	(Ch'un-ho-p'u)	"
205¾	Wang-tzü-kang	(Huang-ssü-kang)	"
211¼	San-po-ssu	(San-p'o-ssü)	"
218¾	Kuang-chou	Kwangchow	"
229	Chai-hê	(Chai-ho)	"
237	Sheng-tieh-pu	(Shêng-t'ieh-p'u)	"
252¼	Lo-shan	Loshan	"
262	Kao-chia-tien	(Kao-chia-tien)	"
271	Wu-li-tien	Wulitien	"
285½	Sin-yang-chou	Sinyangchow	"

### *Branch Line*

It is also contemplated to build a branch line from **Lüchowfu** to **Chengyangkwan** on the Huai River, approximate length 62 miles.

*List of (proposed) Stations*

<i>Mileage.</i>	<i>Railway spelling.</i>	<i>Post Office (or Wade) spelling.</i>
0	Lü-chou-fu	Lüchowfu
6	Kang-chi	(K'ang-chi)
13	Szü-shih-li-pu	(Ssü-shih-li-p'u)
19	Wu-shan-miao	Wushanmiao
25	San-yi-chi	(San-yi-chi)
32	Shuang-miao-chi	(Shuang-miao-chi)
39	Kai-huang-chi	(K'ai-wang-chi)
45½	Lao-miao-chi ]	(Lao-miao-chi)
55½	Kou-chi-yüan	(Ku-chi-yüan)
62	Cheng-yang-kuan	Chengyangkwan

## X. SÜCHOWFU-TSINGKIANGPU RAILWAY

A concession for the construction of a railway between Haichow, Tsingkiangpu, and Süchowfu was granted in 1908 to a provincial company, Su-Lu Kung-ssü (officially known as the Kai-Hsü-Ching-Hai Railway), but owing to financial embarrassment work had to be suspended before many miles of the track were completed.

In accordance with an agreement concluded in October, 1912, between the Chinese Government and a Belgian Syndicate, the local company was bought up and the line merged in the great railway scheme known as the Lung-Hai or Lanchow-to-the-Sea (see railway No. VII).

The estimated length of this line is 120 miles, out of which only 9½ miles from the Tsingkiangpu end have been completed. This small section was opened in January 1912, but there was not enough traffic to pay expenses, and after two months' trial the train service was temporarily suspended until a further section of the line was finished.

The track is being built by Chinese engineers.

*Bridges.* The most important bridge on this section is across the Grand Canal to the W. of Tsingkiangpu. Construction has not yet begun. During the time the line was operated a steam-ferry conveyed passengers across the Canal.



*List of Stations*

<i>Mileage.</i>	
0	Tsingkiangpu.
4	Sipa.
9½	Yangchwang Ku.

*Country bordering the Railway*

The railway starts from the N. of Tsingkiangpu and for about 1 mile runs WNW., thence turning in northerly direction it crosses the old bed of the Yellow River beyond mile 2 ; a bridge spans the stream which runs in the middle of the sandy bed. Beyond the river-bed the line bends ENE. to Sipá, the salt dépôt on the Yen Ho (No. 1), which constitutes the terminus of a short branch line. The main line turns SW. and continues on the dry bed of the Yellow River as far as Yangchwang Ku, where it reaches the Grand Canal. A bridge will ultimately be constructed at this point and the line will run near the W. bank of the canal up to Sutsien ; thence along the old bed of the Yellow River to Süchowfu.

## (C) PROJECTED RAILWAYS

Numerous railway projects have been elaborated, but although in most cases concessions have been granted and preliminary surveys completed, it is unlikely that many will mature within the near future.

## XI. SOOCHOW-CHANGSHU KU RAILWAY

This line will be constructed as a branch of the Shanghai-Nanking system as soon as funds are available.

Length about 16 miles. For description of the country through which the line would pass see Route 11.

## XII. WUSIH-KIANGYIN RAILWAY

A proposed branch of the Shanghai-Nanking Railway. Approximate length 25 miles. For description of country see Route 14.

## XIII. NANKING-HUNAN (OR NING-HSIANG) RAILWAY

In 1906 the Anwhei Railway Company (a purely Chinese enterprise) began the construction of line from Wuhu to Hangchow via Ningkwofu. The work proceeded very slowly ; in 1911 the embankment and a few bridges had been completed between Wuhu and Wanchih, a section 24 miles in length.

In 1914 the whole concern was taken over by the Chinese Ministry of Communications and the provincial plans were merged in a larger scheme to connect Nanking with Changsha in Hunan, on the British section of the Canton-Hankow railway. An agreement for a loan for the construction of this railway was signed on March 31, 1914, by the Chinese Government and the British and Chinese Corporation. By the terms of this agreement the construction and control of the railway is vested entirely in the Chinese Government. A managing director is to be appointed by the Ministry of Communications. But the engineer-in-chief and traffic manager are to be British and to be appointed by the Ministry of Communications with the consent of the British and Chinese Corporation. The railway company is authorized to maintain a force of Chinese police with Chinese officers.

A preliminary survey was made in 1914, the approximate length of the main line being estimated at 643 miles. According to this survey the line would run through the following towns, starting from the Nanking terminus: Ningkwofu, Hweichow, and Wuyüan in the province of Anhwei ; Loping, Nanchang, Changshu Ki, and Pingsiang Ki in the province of Kiangsi ; thence along the existing colliery line to Chuchow Hun and Changsha in Hunan.

The chief engineering difficulties would be the construction of a large bridge at Loping requiring fifteen 100-ft. spans, and of another bridge 50 miles to W. near Takitu which will require at least 2,000 ft. of waterway and a high bank leading up to it, as the valley is subject to very heavy floods.

If this alinement be adhered to the main line will not pass

through Wuhu, and the existing Wuhu-Ningkwofu railway will be operated as a branch line. The scheme may, however, undergo further changes, not only because the outbreak of the European War prevented the British Chinese Corporation from raising the necessary loan, but also because an alternative proposal to run the trunk line from Nanchang to Hangchow or Kashing (on the Shanghai-Hangchow-Ningpo line) instead of Nanking, has, according to press reports, been recently (1916) suggested.

#### XIV. TSINGKIANGPU-HAICHOW RAILWAY

As already stated (see railway No. VII) it was originally intended to continue the Lung-Hai or Lanchow-to-the-Sea railway eastward beyond Süchowfu via Tsingkiangpu to Haichow. As the idea of constructing at Haichow a port for ocean-going steamers seems to have been abandoned, it is doubtful whether this section of the line will ever be built. Under the conditions now prevailing at Haichow the railway would be almost entirely dependent on the salt trade, and would probably find it difficult to compete with the Yen Ho (No. 1), by which salt is now conveyed to Tsingkiangpu.

The length of the line would be approximately 70 miles.

For a description of the country through which the railway would pass see Route 28.

#### XV. TSINGKIANGPU-TUNGCHOW (OR HAIMENTING) RAILWAY

When it was realized that the cost of constructing a port at Haichow would be prohibitive, the scheme of linking up the Lung-Hai system (see railway No. VII) with a port on the Yangtse met with considerable support. Both Tungchow and Haimenting were suggested as the possible terminus of the railway.

The new scheme, including as it does the construction of a branch line from Shaopo to Kwachow, the Yangtse port at the mouth of the Grand Canal, would run parallel to the Grand Canal and would have to reckon with the competition

of the latter. There are, however, considerable difficulties in the way, and a final decision is still awaited.

The length of the railway would be about 170 miles.

#### XVI. ICHENG-TAICHOW KU RAILWAY

According to reports of 1911 the holders of licences for dealing in salt have decided, with government permission, to build a railway from Icheng to Taichow Ku, with a branch to Shiherhwei, the great salt dépôt on the Yangtse.

This line will cross the Grand Canal at Kwachow and pass up the eastern bank of the canal as far as Yangchow, whence it will go to Taichow Ku via Siennümiao. The line was already surveyed in 1911—estimated length 48 miles—but construction has not yet begun. The earthwork will be light, but there will be some important bridges; one of 800 ft., one of 250 ft. and several smaller.

#### XVII. PUKOW KU-KWACHOW RAILWAY

It was originally intended to continue the Tientsin-Pukow railway to Kwachow, opposite Chinkiang. On the completion of the Shanghai-Nanking railway the scheme was modified and the line was terminated at Pukow Ku opposite Nanking, as it was thought inadvisable to build on the northern bank of the Yangtse a railway which would compete with the Nanking-Chinkiang section. As the older project has again been revived it is, however, still possible that it may some day be carried out, either independently or in connexion with the Icheng-Taichow Ku scheme (see railway No. XVI). The distance from Pukow Ku to Icheng would be about 35 miles.

#### XVIII. KAOMI-HANCHWANG RAILWAY

This railway was intended to link up the port of Tsingtau with Süchowfu in order to divert the traffic of the Lung-Hai system from its natural outlets on the Yangtse to the harbour in Shantung. The project is the outcome of negotiations,

extending over nearly two years, for the completion of the railway programme outlined in Part 2, Article 1 of the Kiaochow Convention. The agreement for the construction of this line was signed on December 31, 1913, between the German Minister and the Chinese Ministry of Foreign Affairs.

The railway was to be constructed as a Chinese Government railway under German direction with German engineers and accountants and with German capital and materials. Germany in return waived the rights conferred by Part 2, Article 4 of the Kiaochow Convention upon German subjects to hold and develop mining property for a distance of 30 li from each side of the railway and along the whole extent of the lines.

The line would have been located entirely in the province of Shantung, passing through Ichowfu and Yihsien, but the company would probably have acquired running powers on the Tientsin-Pukow railway between Hanchwang and Süchowfu.

Estimated length about 220 miles.

An alternative scheme has apparently been proposed by which the railway would link up with the Tientsin-Pukow and the Lung-Hai system at Süchowfu, and pass through Taierhchwang instead of Hanchwang.

# SECTION II

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## NOTE

*Type.*—All places on the Routes are printed in **black type**; the chief towns appearing in **BLACK CAPITALS**. Names of mountains, rivers, lakes, city gates, bridges, locks, temples, &c., are given in *italics*.

*Abbreviations.*—The following abbreviations have been used: N. = north; S. = south; E. = east; W. = west; P. = post-office or postal agency; T. = telegraph office; RS. = railway station. The letters 'r.' and 'l.' signify 'right' and 'left' with reference to the direction in which the route is described.

# SOUTH KIANGSU

## ROUTE 1

### CHINKIANG TO HANGCHOW (CHEKIANG)

*Authorities:* Route (A): Gandar, Canal Impérial, 1894; A. H. Hilton-Johnson, Dec. 1906 (Sect. 1-3), Oct. 1906 (Sect. 4); H. R. Davies, Jan. 1907 (Sect. 5), March, 1907 (Sect. 6).  
Route (B): W. H. Johnston, April, 1909; China, Marit. Customs, Returns of Trade, 1914; Imp. Japanese Rys. Official Guide, vol. iv, 1915.  
Route (C): Darwent, East of Asia, 1902; Richthofen, vol. iii, 1912.  
Route (D): G. E. Pereira, Dec. 1907; W. H. Johnston, April, 1909.  
Route (E): H. R. Davies, March, 1907, Apr. 1909; War Office Map, Kiangyin and Hangchow, 1908.

General direction, S. Chinkiang and Hangchow are both connected by railway with Shanghai. The two termini at Shanghai are being linked up by a loop line, so that by the end of 1916 through trains will be able to run between Chinkiang and Hangchow. (For details of the railways see p. 100 &c.)

Various water routes are available :

#### (A) VIA SOOCHOW AND KASHING (206½ miles)

This is the main water route and lies entirely along the *Grand Canal*. (For detailed description of the latter see Chap. VIII.) This route can be conveniently divided into the following sections :

##### (1) *Chinkiang to Tanyang* (20½ miles)

General direction, SE. The original course of the canal runs under the S. wall of Chinkiang and has an exit into the Yangtse near the British Concession. In winter this waterway is practically dry at low tide and traffic reaches the

Yangtse through Tantu. The canal is tidal throughout this section. Average force of tide, 2 miles per hour. Average rise and fall,  $1\frac{1}{2}$  ft. The average width of canal is 15 yds., and the average depth 7 ft. In winter both are much reduced, the depth often to  $1\frac{1}{2}$  ft. in places. The canal is a regular steam-launch route between March and November, at which time it is navigable for vessels up to  $4\frac{1}{2}$  ft. draught and 16 ft. beam. No launches run in winter. Passing would be difficult at most points owing to gently sloping banks.

The country generally is high, dry, rolling, and broken, and is passable for all arms. Much of it is uncultivated grass downland. It is sparsely wooded, and creeks are very few. The banks are high throughout—often 70 ft.—and give good view from the top; they are very liable to slip and thus block the waterway. Villages are substantially built and would offer fair accommodation. The lagoon (Lien Hu, or Tan-yang Hu) bordering the l. bank for last 4 miles is about 10 ft. deep in summer and nearly dry in winter. There is a good and continuous towpath throughout, passable for animals and wheelbarrows. As far as Huang-ni-pa the route is frequently commanded by hills.

miles

0      **CHINKIANG**, P. T. RS. (see *Gazetteer*). Canal leaves the Yangtse, passes West Gate and South Gate (distances are given from the latter).

$5\frac{1}{4}$       **Tantu**, P., market town (250 houses). From here creek ( $\frac{3}{4}$  mile long) affords good outlet to the Yangtse. A good paved or mud track, 2 ft. to 4 ft. wide, and passable for animals and wheelbarrows, leads to East Gate of Chinkiang.

$8\frac{1}{4}$       **Tushan** (or Yüeh-ho-chên, or Yüeh-ho-tsêng), P., market town on l. (100 houses). From here river of same name ( $2\frac{3}{4}$  miles long) affords good outlet to Yangtse, passing through Kienpi.

$12\frac{1}{2}$       **Sinfeng Ku** (Sing-fung-tsêng), P. RS., market town (1,000 houses).

From here good paved or mud track, 2 ft. to 4 ft.

miles

wide, and passable for animals and wheelbarrows, leads to South Gate of Chinkiang. The Nanking-Shanghai Ry. crosses canal by a bridge about 3 miles south of the town. The railway station is SE. of bridge. The line continues near the eastern bank of the canal as far as Soochow.

15½ **Huang-ni-pa** (Wang-ni-po), village on r. (100 houses).

17 **Chang-kuan-tu-shih** (Tsang-kuen-tu-ssü), market town on r. (200 houses).

(?) **Ch'i-li-miao.**

20½ **TANYANG**, P. T. RS. (see *Gazetteer*). Canal approaches by the north and west wall.

(2) *Tanyang to Changchow Ku* (27 miles)

General direction, SE. The canal is very slightly tidal S. of Tanyang. Its width averages 25 yds. and is fairly uniform. Average depth, 7 ft. It deepens and widens on leaving Tanyang. It is a regular steam-launch route from March to December, and is then navigable for vessels up to 5 ft. draught and 16 ft. beam. No launches run in winter, it being then navigable for vessels up to 2 ft. draught only. Large boats could pass each other almost anywhere.

The country generally is flat, well cultivated, sparsely wooded, and with very few creeks. It is above highest water-level and passable for all arms. The banks are 10 ft. to 25 ft. high, and no view from boats is possible. A continuous towpath, passable for animals and wheelbarrows, follows the route throughout.

miles

21 **TANYANG**, P. T. RS. Canal leaves by the *East Gate*; it widens and becomes deeper.

? 24½ **Ch'ing-yang-p'u.**

27½ **Ling-k'ou**, RS., market town (100 houses).

? 30½ **Ta-wang-miao.**

miles

- 33½ **Lücheng**, P. RS., market town (700 houses).  
 36¼ **Chiu-li-p'u**, village (50 houses).  
 39¼ **Penniu**, P. T. RS., market town on l. (800 houses).  
 From eastern end good creek gives outlet to Yangtse and is navigable in summer for vessels of 4½ ft. draught, but in winter it narrows in places to 8 yds., and shoals to 2 ft.  
 42½ **Lien-chiang-ch'iao** (Li-kang-chiao), village on l. (30 houses).  
 44 **Hsin-cha** (Hsin-za-tsü), village (100 houses).  
 48 **CHANGCHOW KU**, P. T. RS. (see *Gazetteer*).  
 Route before entering *West Gate* runs for a mile through north-west suburb.

(3) *Changchow Ku to Wusih* (25¼ miles)

General direction, SE. Tide and current effects are practically nil. The canal is of a uniform width of 30 yds.; the average depth is 8 ft. It is a regular steam-launch route and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large vessels could pass each other practically anywhere. The country generally is flat, well cultivated, sparsely wooded, and with very few creeks. As far as Wanglin the banks are 10 ft. to 20 ft. high, and no view from boats is possible. The country lies above highest water-level, is dry and passable except for the last 5 miles where it is low and swampy. A continuous towpath, passable for animals and wheelbarrows, follows the route throughout.

miles

- 48 **CHANGCHOW KU**, P. T. RS. The *West Gate* is in direct water communication with other gates via E. and N. wall.  
 50¼ Mouth of creek on l. Distance to South Gate, 1,000 yds.  
 51¼ **Po-chia-ch'iao** (Pa-ku-chiao), S. suburb of Changchow Ku.

miles

- 53 $\frac{3}{4}$  **Ting-yen-chên** (Ting-yeh), market town (40 houses).  
 56 $\frac{1}{4}$  **Chishuyen**, P. R.S. (railway name Tsi-shu-yen), market town (200 houses), chiefly on l.  
 A creek goes NE. to Shihyen (see Route 15, mile 13 $\frac{3}{4}$ ).  
 59 $\frac{1}{4}$  **Wanglin**, P. R.S. (local name, Wang-ling-tsêng; railway name, Heng-lin), market town (400 houses).  
 62 **Wu-ma** ('Ng-mo), village (30 houses).  
 64 $\frac{3}{4}$  **Hua-tu-ch'iao** (Hu-tou-chiao). Single-arch bridge over creek on r.  
 This creek leads to Ihing (see Route 16).<sup>1</sup>  
 65 $\frac{1}{4}$  **Loshe** (Lo-za), P. R.S., market town (400 houses).  
 68 $\frac{1}{2}$  *P'an-fêng-p'u*.  
 69 $\frac{1}{4}$  **Wan-an-ch'iao-hsün** (Van-ê-chiao-sing).  
 70 $\frac{1}{2}$  *Kao-ch'iao*. High single-arch stone bridge on l.  
 Mouth of creek to Kiangyin (see Route 14).  
 73 $\frac{3}{4}$  **WUSIH**, P. T. R.S. (see *Gazetteer*). Route enters by *North Gate* after passing for 1 mile through north suburb. Waterway much congested. This gate is in water communication with all others, via E. and W. wall.

(4) *Wusih to Soochow* (30 $\frac{3}{4}$  miles)

General direction SE. The canal is practically non-tidal, but has a sluggish current flowing SE. Its average width is 35 yds. and average depth 10 ft. It is a regular steam-launch route, and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large vessels could pass each other anywhere.

The country generally is undulating and broken, well cultivated (chiefly mulberry), with a wooded appearance, and is much intersected by creeks. Near Soochow it is low and swampy; elsewhere it is well above flood-water level, and the banks usually prevent any view from boats. There is a towpath throughout, occasionally broken by creeks.

<sup>1</sup> According to War Office map, the entrance to the main creek is at Wu-ma, mile 62.

Alternative routes on approaching Soochow are :

a) South-east, leaving the Grand Canal at the Powder Magazine, through the suburb known as San-tang-lang to the Ch'ang Mên (Ts'ang Mên).

(b) West from Fengkiao Ku to the Ch'ang Mên.

As regards (a) it is always navigable, but is not used by launches owing to narrow entrance bridge (16 ft. waterway) and the constriction of last half-mile.

As regards (b) it is always navigable, but narrow and congested, and as a rule is only used by launches entering from the NW.

Half a mile from the Ch'ang Mên on l. is a camp, about 150 yds. by 150 yds., surrounded by a wall 12 ft. high and 2 ft. thick. In October, 1906, it was occupied by 65 modern-drilled cavalry with ponies. Half a mile farther on r. is a barracks surrounded by a wall, 8 ft. high,  $1\frac{1}{4}$  ft. thick. The enclosure is about 250 yds. by 200 yds. and could accommodate 1,500 men.

About a mile NW. of Hushukwan the canal passes between hills 100 ft. to 200 ft. high and half a mile distant. The banks are here 6 ft. to 10 ft. high. Movement by land would be difficult owing to creeks, but on the other hand the country between the creeks affords good cover, and is usually dry and passable.

miles

73 $\frac{3}{4}$

**WUSIH**, P. T. RS. At *North Gate* branch r. goes to West and South Gates via city wall: navigable but not generally used owing to sharp turn and narrow bridge outside South Gate. Branch l. keeps about  $\frac{1}{2}$  mile from city wall, and meets the other branch again  $\frac{1}{4}$  mile beyond South Gate.

76 $\frac{3}{4}$

78 $\frac{3}{4}$

Route leaves SE. suburb of city.

81 $\frac{1}{4}$

**Chou-ching-hsiang** (Chow-king-hang), RS.  $\frac{1}{4}$  mile NE.

83 $\frac{3}{4}$

**Sinanchen Ku S** (Sing-o), P., market town (100 houses).

86 $\frac{1}{4}$

**Pei-wang-t'ing** (Po-mang-ting), village on l.

87 $\frac{1}{4}$

**Wangting** (No-mang-ting), P. T. RS., market town (200 houses).



miles

- 89½ **Chin-chi-hsün.**
- 92 **Hushukwan** (Si-zū-kuan), P. RS., market town (500 houses).
- 92½ **Wên-ch'ang-kung.** Temple on top of hill 50 ft. high on r., surrounded by loose brick wall about 80 yds. by 120 yds., and 1½ ft. thick, commands canal.
- 95½ **Sa-tao-k'ou** (? Shê-tu-p'u, according to Gandar). Mouth of creek on r. In 1906 magazine contained gun and S. A. powder, but no made-up ammunition. Surrounded by 15-ft. brick wall, 12-ft. moat, 10-ft. brick wall, and 6-ft. earth bank (approx. measurements), and had a guard of 20 men.
- 97½ **Fengkiao Ku** (Fung-chiao-tsêng), P., market town (50 houses). Route (b) leaves Grand Canal. Just north-west of village is a camp about 150 yds. by 150 yds., surrounded by a wall 12 ft. high and 2½ ft. thick. In October, 1906, it was being rebuilt inside for cavalry occupation.
- 99½ **Hengtang** (Wang-tang-tsêng), P., market town on r. (150 houses). Route passes under bridge and proceeds north-east.
- 101½ **SOOCHOW**, P. T. RS. (see *Gazetteer*). Route enters the Hsü Mên (the southern of two gates in W. wall).
- 104½ *Customs Buildings* at SE. corner of City Moat.

(5) *Soochow to Kashing* (39 miles)

General direction SSE. Canal navigated by steam-launches all the year round. In the town of Pingwang at mile 126½, the water is sometimes only 4 ft. deep, especially in winter. Launches then have to go round to the east, turning off 1½ miles short of Pingwang and rejoining the canal ½ mile beyond the S. end of Pingwang. Except at Pingwang there seems to be at least 7 ft. of water throughout. The canal varies from 20 yds. (at Pingwang) to 100 yds. in width. The average is 50 or 60 yds.

A road, good for towing and passable for horses, runs along the canal the whole way, chiefly on the r. bank, but crossing once to the l. bank for 2 miles. From mile 118½ to mile 138 an unbridged ditch 3 to 10 yds. wide runs alongside the road on the r. bank, cutting it off from the surrounding country. The bank opposite to the road is usually not practicable for walking owing to unbridged side-creeks.

The current runs S. as far as the big creek which crosses the canal at mile 110½, near Chia-p'u-ch'iao. From here onwards the current runs N. Side-creeks from the r. come in with a strong current. There are no bridges low enough to interfere with navigation.

miles

- 104½ **SOOCHOW**, P. T. RS. Route leaves from the Customs Buildings outside the city near the SE. corner of the moat.
- 105½ Large barracks on r. bank, in enclosure 300 yds. square, surrounded by 6 ft. wall.
- 106 Rifle range on r. bank.  
*Mi-tu-ch'iao*.
- 106½ *Pao-tai-ch'iao* (Po-ta-chiao). A stone bridge 300 yds. long, with 53 small arches, crossing the mouth of a small lake called *Tan-t'ai Hu*, which joins the canal on the r. Near the centre of the bridge is a bigger arch for passage of large boats.
- From this lake a creek goes off connecting with the *T'ai Hu*. A creek here which goes off to the l. is the main launch route between Soochow and Shanghai, see Route 5 A.
- 108½ *Yin-shan-ch'iao* (Nying-sän-chiao). One-arch stone bridge across canal: large stone abutments. ¼ mile E. of bridge, *Yin Shan*, a hill.
- 110½ A creek 60 yds. wide, crossed here by a five-arch stone bridge, goes off to r. to the *T'ai Hu* (Great Lake), and a creek said to be passable for big boats goes off to l. to the Soochow creek.

miles

- 111 *Chia-p'u-ch'iao* (Ka-p'u-chiao). One-arch stone bridge across canal. Road and telegraph line cross to l. bank. Width of canal here 60 yds., depth 9 ft.
- 113 *San-li-ch'iao*, one-arch stone bridge by which road recrosses to r. bank.  
**Wukiang Ku** ('Ng-kang-yüen), P., walled city (800 houses)  $\frac{1}{4}$  mile away on the r.  
 Three or four small creeks lead from the canal to the city.
- 113 $\frac{1}{4}$  A creek to l. leads to the market town of Tungli Ku.
- 114 **T'ang-chia-fang** (20 houses).
- 114 $\frac{1}{2}$  A creek to r., crossed here by a five-arch bridge, leads to *T'ai Hu*. Ferry.  
 Canal has here narrowed to 40 or 50 yds., and is 7 ft. deep.
- 116 A creek to l. to Tungli Ku.  
*Po-lung-ch'iao*.
- 118 $\frac{3}{4}$  From here on to mile 138 an unbridged ditch 3 to 10 yds. wide separates the road on the r. bank from the surrounding country.
- 120 $\frac{1}{4}$  **Pa-ch'ih-chên** (Pu-ts'a), market village (200 houses) on l. bank.  
 A creek to the r. leads to the *T'ai Hu*; it is crossed by seven-arch stone bridge.
- 122 $\frac{1}{4}$  A small lake on the r. From here begins a series of lakes on both sides, at from  $\frac{1}{4}$  to  $\frac{1}{2}$  mile from the canal.
- 123 $\frac{1}{2}$  **Shêng-tun** (Sêng-têng), 25 houses.
- 124 $\frac{1}{4}$  The canal here narrows for a little distance to 30 yds.
- 125 $\frac{1}{2}$  A creek branches off to the l. to Lili. This also connects with the launch route from Pingwang to Shanghai (Route 4 A). When the water is too shallow for launches to Pingwang, they turn off by this creek, crossing a small lake called Wu-po-t'ang, and rejoining the Grand Canal  $\frac{1}{2}$  mile south of Pingwang. This

miles

alternative route is nearly the same distance as the main canal.

126 $\frac{3}{4}$  **PINGWANG**, P., market town (800 houses), mostly on the r. bank. The canal is crossed in the town by two fine one-arch stone bridges. In the town the canal is from 20 to 30 yds. wide. It has sometimes only 4 ft. depth in winter, and launches then take the alternative route described above.

127 $\frac{1}{4}$  At S. end of town a creek goes off to the r. to Huchowfu under a one-arch stone bridge.

Launches run regularly from Shanghai through Pingwang to Huchowfu (see Route 1 B).

127 $\frac{3}{4}$  A creek to the l. to Shanghai, navigated by launches (see Route 4 B). The alternative branch route mentioned above rejoins Grand Canal here.

129 $\frac{3}{4}$  Creek to the r., crossed by a three-arch stone bridge, into a little lake and on to Shingtseh (Sang-za), P. T.  
? *Chi-ch'ing-ch'iao*.

130 $\frac{1}{2}$  A small lake on the r.

132 **Shih-pa-li-miao** (Ssü-pa-li-miao), village (15 houses) on the r. bank.

133 **Ch'i-li-wan** (Ts'i-li-wän), village (16 houses) and likin station.

? **Li-ching-p'u**.

135 A small creek to the r., forming the boundary between the provinces of Kiangsu and Chekiang. On the l. bank the boundary is farther N.

135 $\frac{1}{4}$  **Wangkiangking**, P., market village (300 or 400 houses) on the r. bank.

A creek goes off to the r. to Shingtseh and Huchowfu, said to be passable for small boats only.

The canal is here bridged by a three-arch stone bridge.

Beyond bridge a creek to the l. to Kashan, said to be passable for big boats but not for launches.

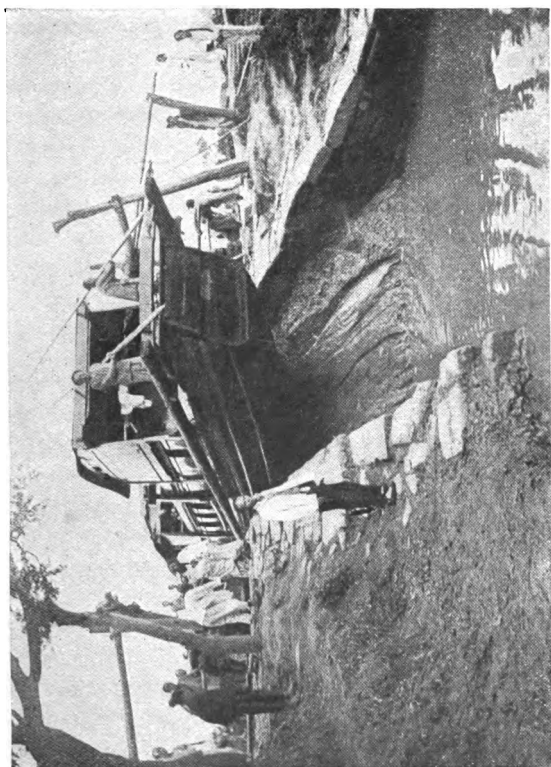
138 The unbridged ditch, 3 to 10 yds. wide, which has

- miles | separated the road on the r. bank of canal from surrounding country since mile 118 $\frac{1}{4}$ , ends here.
- 140 | **Chin-ch'iao-p'u.**
- 141 | A creek to the r., said to lead to Shuang-ch'iao.
- 142 $\frac{1}{2}$  | **Ti-ssü-yüan**, village on l.  
Creek to the l. goes to Shanghai (see Route 3 A, mile 62 $\frac{1}{4}$ ).
- 143 | **KASHING**, P. T. RS., walled city with large supplies. N. suburb of city begins here on both banks of canal. Catholic mission on l. bank, enclosed by 6 ft. wall, 150 by 200 yds. Just beyond this, on the l. bank also, are the Customs Buildings. See *Gazetteer*.
- 143 $\frac{1}{2}$  | *North Gate* of city.

(6) *Kashing to Hangchow* (63 $\frac{1}{4}$  miles)

General direction, SW. As far as the Foreign Settlement at Hangchow the canal is generally used by launches all the year round. Occasionally, at exceptionally low water, the canal is too shallow at Shihmenwan and at Shihmen Che for launches to navigate. They then have to take a more westerly route at Pingwang, rejoining the Grand Canal at Wu-li-t'ou or Tangsi (see Route 1 B). The average width of the canal up to Tangsi is 50 yds., and beyond Tangsi 80 to 100 yds. Passing through cities and towns, it narrows in places to 15 or 20 yds., and the narrowest bridges are only 8 to 10 yds. wide. The depth is usually enough all the year round for launches drawing 4 $\frac{1}{2}$  ft., and in most places it is far greater than this. There is no tide in this part of the canal, but there is a slight current from the direction of Hangchow. Strength of current in March is less than  $\frac{1}{2}$  mile an hour at Kashing, and still less near Hangchow.

Towing from the bank is practicable throughout, except when passing through Shihmenwan, Shihmen Che, and Tangsi, where houses close to the bank prevent it. A road follows the canal all the way. As far as Shihmen Che it is the main



A 'HAULOVER'



road to Hangchow, is followed by the telegraph line, and is passable for horses. Beyond this it becomes narrow and bad, and in places overhung with mulberry-trees, so that horses would have to be led. Bridges and ferries are numerous. No bridge is small enough to form an obstacle to navigation.

Launches do not run beyond the Settlement, and the route to the city leaves the Grand Canal almost immediately by a creek with a depth of  $2\frac{1}{2}$  ft. when the water is low. This creek leads into the Shang Ho or Haining Canal by a haul-over lock, up which boats of not more than 11 ft. beam can be hauled, if not too heavy. In the Haining Canal deep water is again found, right into the city by the Pa-tzũ Mên water-gate. The Shanghai-Hangchow railway connects Kashing with Hangchow, but runs many miles S. of the canal. The Foreign Settlement is linked up with the main line at Kên-shan Mên (railway name, Ken-Shang Mun) by a branch  $4\frac{1}{2}$  miles long.

miles

143 $\frac{1}{2}$

**KASHING**, P. T. RS. From the *North Gate* round by a moat, which is here formed by the Grand Canal, to

144 $\frac{1}{2}$

*Great West Gate*. The canal 200 yards from the city wall is crossed by a one-arch stone bridge. From here it turns westwards away from the city. The width of the canal varies from 40 to 60 yds. Sluggish current of  $\frac{1}{2}$  mile an hour from direction of Hangchow.

145 $\frac{1}{4}$

**San-t'a**. Three small pagodas and few houses on r. bank.

146 $\frac{1}{4}$

*Yao-fên* (Yo-vên). Temple on r. bank.

148 $\frac{1}{4}$

**Mu-chia-ching** (Mu-ka-ching), 6 houses.

150

**T'ao-chia-chien** (Tao-ka-chien), village (50 houses) on r. bank.

151 $\frac{1}{4}$

**Tou-mên**, village (20 houses) on both banks, and one-arch stone bridge called *Ta-t'ung-ch'iao*.

153 $\frac{1}{4}$

**Chêng-chia-chien** (Tsêng-ka-chien), village (10 houses) on r. bank : ferry.

155 $\frac{1}{4}$

**Yung-hsin** (Yung-sing), village (12 houses) : ferry. Creek to r. to Wu-tsêng and l. to Tutien, both said to be passable for big boats.



miles

157½ **Mao chia-tu** (Mo-ka-tu), 12 houses.158¼ **Shuang-ch'iao** (Suang-chiao), village (20 houses) and two one-arch stone bridges 200 yds. apart.

Main creek to **Tunghianghsien** (Tung-hsiang-yüen), P. T., goes off to l. between the two bridges. The city is about 2 miles S. of Grand Canal.

159¾ **Tsung-yang-miao**. Temple on r. bank.

Creek to the r. to Wu-tsêng, said to be passable for big boats. Creek to l. to Tunghianghsien, P. T., said to have some low bridges across it.

161¼ **Ch'ien-tien-tu** (Sien-tien-tu). Three houses and one-arch stone bridge.162½ **Ta-wang-miao**, 3 houses and temple.

164 Creek to r. to Wu-tsêng, said to be passable for big boats.

164¾ **Shihmenwan** (Za-mên-wän), P., market town of 300 houses on both banks. Canal crossed by two one-arch stone bridges. Narrows here to 20 to 30 yds., widening again after leaving village.166¾ **T'ai-kung-tu**. Big temple (*San-kuan-tu*) on r. bank.

167¾ Creek to r. to Hsing-ssü, said to be passable for big boats.

168 Creek to l. to Tutien, P., said to be passable for big boats.

170 **Pei-san-li-ch'iao** (Pu-sän-li-chiao), temple on l. bank and one-arch stone bridge.171 **SHIHMEN CHE** (Za-mên-yüen), P. T., through a small suburb to the North Gate of Shihmen Che and follows its walls round to beyond the small South Gate. City and suburbs contain about 600 houses (see *Gazetteer*). Canal is crossed in the northern suburb by one-span bridge of beams of wood covered with stone slabs, at the East Gate by a one-arch stone bridge, and at the small South Gate by a one-arch stone bridge.

In the northern suburb a creek, said to be passable

miles

for big boats, goes off to the r. to Tzū-hsieh and Hsing-ssü.

172 Canal turns away from the city wall.

172½ Canal turns to r. under one-arch stone bridge. Road crosses here and follows down l. bank.

The main road to Hangchow, and the telegraph line, leave the canal just beyond this, turning southward and following another creek. This creek goes to Changan, where there is a lock over which boats have to be hauled (see Route 1 E, mile 176½). From here the road down bank of canal becomes rough and narrow, only just passable for horses.

174½ *P'êng-ho-ch'iao* (Pang-wu-chiao), one-arch stone bridge.

175½ *Sung-lao-kao-ch'iao*, one-arch stone bridge, by which road crosses to r. bank, which it follows.

177 *Nan-shêng-t'ang* (Nên-sêng-tang), temple on r. bank; ferry.

178½ **Tama**, P., main village lies ½ mile to the l. off the canal. Few houses on canal and one-arch stone bridge.

180½ **Polu**, P., village is ¼ mile to the l. off canal.

Creek turns off through the village, said to be passable for big boats to Ling-po.

180½ *Po-lu-shuang-ch'iao* (Po-lo-suang-chiao), two one-arch stone bridges, ¼ mile apart. Road crosses to l. bank.

182½ **Wu-hang** (Ung-hang), village (70 houses) to the l. off the canal. Few houses on canal bank and one-arch stone bridge across it.

Just before the bridge a creek goes off to the r. to Hsing-ssü.

Road crosses by bridge to r. bank.

184½ *Lung-kuang-ch'iao*, one-arch stone bridge by which road crosses to l. bank. Just beyond this a creek, crossed at its mouth by a seven-span stone-slab bridge, goes off to the r.

miles

- 186 $\frac{3}{4}$  *K'ua-t'ang-ch'iao*. Three-arch stone bridge by which road crosses to r. bank.
- 187 $\frac{1}{4}$  Temple on r. bank and also on an island. Just beyond this the waterway forks, a creek going to the l. front into another part of Tangsi, whilst the canal keeps to the r. front.
- 188 **Tangsi**, P., market town with 500 houses and good shops on both banks: principal street on l. bank. Thirty cargo boats, 50 ft. long, counted here in March, 1907, also numerous other boats. Canal is crossed by one-arch stone bridge at entrance to town, and five-arch stone bridge near farther end of town.
- Near the first bridge a creek goes to the right to Hsing-ssü, under a three-arch stone bridge. Near the second bridge creek goes to the r. to Huchowfu (see Route 1 B, mile 192 $\frac{3}{4}$ ). Road crosses to l. bank by first bridge.
- 191 **Wu-li-t'ou** (Ung-li-tou). Two creeks to the r.
- The first is the launch route to Huchowfu (see Route 1 B, mile 195 $\frac{1}{2}$ ), the second goes to Ping-chiao. Few houses on r. bank between these two creeks. On l. bank disused stone fort commanding all the waterways which meet here. Fort 50 yds. each side, stone wall 3 ft. thick and 20 ft. high. Ports, 2 $\frac{1}{2}$  ft. high and 1 $\frac{1}{2}$  ft. wide, for guns, near bottom of wall. Inside wall are casemates made of brick arches, roof of casemates forming banquette, 15 ft. wide, all round the top of the wall, which is surmounted by remains of brick wall, 3 ft. thick.
- 194 $\frac{1}{4}$  **Wang-chia-chuang** (Wang-ka-tsuang), village (25 houses) on both banks.
- 196 $\frac{1}{4}$  **Tsung-kuan-t'ang** (10 houses).
- 198 **Pai-shu-t'ou** (Pa-ssü-tou). Village (30 houses) on l. bank.
- 199 $\frac{1}{2}$  **Hsieh-ts'un** (Sia-ts'êng), village (35 houses) on l. bank.

miles

201 $\frac{1}{4}$  **HANGCHOW, P. T. RS., Foreign Settlement.**

British Consulate, on r. bank.

201 $\frac{1}{2}$  Customs Buildings on l. bank.201 $\frac{3}{4}$  *Kung-ch'ên-ch'iao* (Kung-sêng<sup>2</sup>-chiao). Three-arch stone bridge. Here the Settlement ends and a big suburb of 2,500 houses called **Hushu** (Wu-ssü), P., begins, stretching from here for 4 miles to the *Wu-lin Mên* (Gate) of the city of Hangchow. Launches do not go beyond this bridge, but could go on to **Hsin-ma-t'ou** (Sing-mo-tou).202 To go into the city of Hangchow by water the Grand Canal has to be left here by a creek 20 yds. wide and 2 $\frac{1}{2}$  ft. deep when the water is low ; it turns off to the l. under a one-arch stone bridge. A road follows bank of creek.

The Grand Canal can, however, be followed further, passing the *Pei-hsin-ch'iao* (bridge) at mile 202 $\frac{1}{2}$  and the *Chiang-chang-ch'iao* (bridge) at mile 203 $\frac{1}{2}$ . Beyond this the canal forks, both branches ending in about  $\frac{1}{4}$  mile. The left-hand branch, which passes under a three-arch bridge, is considered the main canal, and its end is called **Hsin-ma-t'ou**. From here there is a road, passable for horses, reaching the *Wu-lin Mên* (the most westerly of the two northern gates of the city) in 1 $\frac{1}{2}$  miles from **Hsin-ma-t'ou**, 61 $\frac{3}{4}$  miles from the North Gate of Kashing.

203 $\frac{1}{4}$  *Yao-chia-pa* (Yo-ka-po), a haulover lock by which boats pass to the higher level of the *Shang Ho* or *Haining-Hangchow Canal*. Width of lock, 11 $\frac{1}{2}$  ft. Boats are hauled up by ropes fastened to capstans on each bank, sixteen men in all work the capstans. Time for each boat about 8 minutes. Chinese passenger-boats of not more than 11 ft. width can be hauled up. Loaded cargo-boats are too heavy unless very small.203 $\frac{3}{4}$  **Shentang Che** (Sêng-tang-wän), P., village (20

miles

- houses). Railway bridge by which branch railway from Hangchow to the Foreign Settlement crosses the creek.
- 205 **Tung-hsiñ-kuan.** Village (6 houses), and one-arch stone bridge. Canal here turns to l.  
Another creek going straight on is said to lead to *Wu-lin Mên*, city gate.
- 206½ **HANGCHOW, P. T. RS.** Treaty Port (see *Gazetteer*, Chekiang). Route reaches the moat of the north face of city, and turns along it to the l.
- 206¾ Route enters city by *Pa-tzü Mên* (water-gate) the arch of which is 20 ft. wide and 15 ft. high.

## (B) VIA PINGWANG AND HUCHOWFU (211½ miles)

This longer route is followed by steam-launches when the Grand Canal becomes too shallow for navigation between Kashing and Shihmen Che. A regular service of steam-launches is maintained all the year round by a Japanese company (Nisshin Kisen Kaisha). As far as Pingwang the itinerary is the same as for Route 1 A.

miles (approx.)  
from Chinkiang

- 127 **PINGWANG, P.** The route follows a canal which branches off to the W., at S. end of the town, and runs parallel to the southern bank of the *T'ai Hu* (a large lake with which it is connected by many creeks).
- 130 **Meiyen, P.**
- 134¾ **Shuang-yang-chên** (Sang-yen-tsêng).
- 136½ **Chentsch** (Sêng-sê-tsêng), P. T.
- 141 Route crosses the Kiangsu-Chekiang border.
- ? **Nanzin, P. T.,** a centre of the silk industry.
- 159 **Shên-shan-shih** (Sêng-sän-ssü).
- 168 **HUCHOWFU, P. T.,** a large walled city. Pop. over 100,000. Much silk produced here. Plentiful sup-

miles (approx.)  
from Chinkiang

- plies of every description can be obtained. Just outside the South Gate canal joins a waterway coming from the T'ai Hu through the western suburb of the city (see Routes 1 C and D).
- General direction, S.
- 170 The canal opens out into a small and shallow lake nearly 2 miles long. Average depth 4 ft. 6 in. Steam-launches run slowly. Their channel is shown by black posts, on which are lights at night. Two channels lead to the lake from Huchowfu.
- 172 Canal 60 yds. wide on leaving the lake.
- 172 $\frac{1}{4}$  **Chiang-tung** (Kang-tung), 12 houses on r.
- 174 **Hsi-chia-hui** (Yi-ka-wei), 80 houses, on l.
- 175 $\frac{1}{4}$  **Tikiang** (Tieh-kang), P. A market village of 250 houses on r. Stopping-place for steam-launches. On entering the village the canal is only 20 yds. wide, but broadens out to 40 yds. after passing the village. Prominent temple to the north of village, on r. bank. Moderate quantities of fish, poultry, eggs, and vegetables are obtainable.
- 177 *Yung-hsing-an* (Yung-hsing-ei), temple on l.
- 178 $\frac{3}{4}$  **Linghu** (Ling-wu), P., a big market village (400 houses) on l., intersected by canals which take the place of streets. Stopping-place for steam-launches. Supplies of fish, eggs, poultry, and vegetables could be obtained in considerable quantities.  $\frac{1}{4}$  mile before reaching the village the canal makes a bend to l. and broadens out to 150 yds.
- 181 *Shih-shih-an* (Ssü-sü-ei) temple on l. Canal bends to r. and narrows again.
- 181 $\frac{1}{4}$  **Tung-tien** (Tung-ti), 40 houses, on r. At the beginning of this village the canal makes a sharp bend to l.
- 183 **Hsü-chia-tu** (Si-ka-tu), 80 houses, on r.
- 183 $\frac{1}{2}$  **Kuan-ti-miao** (Kuei-ti-miao), temple on r.
- 183 $\frac{3}{4}$  **Shih-ao-li** (Ssü-wo-li), 20 houses, on l.

miles (approx.)  
from Chinkiang

- 185      **Shan-yi-wan** (Sei-yi-wei), small village (20 houses), with a conspicuous stone pagoda, about 700 yds. to l. Canal 25 yds. wide, turns to r. and widens to 50 yds.
- 185½      **Hsia-t'ang** (Wo-tang), village (40 houses) on r.  
The canal here makes a sharp bend to l. and again narrows to an average width of 25 yds.
- 187      **Ts'ai-wang-miao** (Ts'ao-wang-miao), 6 houses, on r. Stone-arch bridge over canal. Arch 40 ft. wide, 20 ft. high. Canal widens again.
- 189½      **Wên-ch'ing-ch'iao** (Vang-ch'ing-ch'iao), 10 houses, on r. Stone-arch bridge over canal. Arch 50 ft. wide, 20 ft. high.
- 190      **Pei-so-yen** (Po-so-yi), 10 houses, on l. Canal opens out into a small lake.
- 190½      **Ch'iang-kung-lin-shu** (Ch'iang-kung-ling-ssü), 40 houses, on l.
- 190¾      **Ch'iang-kung-li**, 2 houses, on l.
- 191½      **Lan-tien** (Lei-ti), a straggling village (80 houses) on r., with a small wharf at which steam-launches stop.
- 192½      **Shih-pa-yen** (Ssü-po-yi), 20 houses, on l.
- 192¾      **Pai-yün-ts'un** (Pa-ying-ts'êng), 6 houses and a temple on l. Single-arch bridge. Arch 50 ft. wide, 20 ft. high.  
Just south of this village the canal from **Tehtsing**, P., to Tangsi crosses the route. It has a telegraph line along its north bank. The Grand Canal can be conveniently reached by this waterway, but the main route lies along the other branch.
- 193½      **Wang-ch'ang-k'ou** (Wang-tsang-keu), 10 houses, on r. bank. Canal 60 yds. wide, narrowing to 50 yds. Numerous unbridged side-creeks.
- 195½      **Wu-li-t'ou** (Ung-li-tou). Route enters Grand Canal after passing under a single-arch stone bridge, at a place near a ruined stone fort (on l.),

miles (approx.)  
from Chinkiang

where the Grand Canal makes a sharp bend to the S.

From this point the itinerary is the same as for Route 1 A, from mile 191 onward.

205½

**HANGCHOW, P. T. RS., Foreign Settlement.**

211¼

*Pa-tzü Mên* or Water Gate of Hangchow.

(C) VIA SOOCHOW AND HUCHOWFU (about 201½ miles)

This alternative route is not usually followed on account of the difficulties of navigation across the T'ai Hu. This large lake (over 1,000 sq. miles) is very shallow: it seldom reaches a depth of more than 5 or 6 ft. The banks, except in one place on the W., are very low, and for miles bordered by a belt of swamps overgrown with rushes. There are no large towns on the banks, and the avenues of trade lead not through the lake but along the numerous creeks which skirt it. Only boats with flat bottoms can safely attempt to cross the lake. Even these are sorely tried by the dangerous storms which sweep the lake. No reliable information was available concerning the journey from Hsü-k'ou-chên to Huchowfu.

As far as Soochow the itinerary is the same as for Route 1 A.

miles (approx.)  
from Chinkiang

102

**SOOCHOW, P. T. RS.** General direction W. The route leaves the Grand Canal just S. of the *Hsü Mên*, the southern gate in W. wall, and follows a beautiful creek. The banks are covered with vegetation, mulberry-trees, copses of forest trees, and bamboo groves, and spanned by fine bridges.

104½

**Hengtang** (Wang-tang-tsêng) P., 150 houses, bridge with gate-house in the middle. Route turns S., and ½ mile farther on it turns W.



miles (approx.)  
from Chinkiang

- 105 $\frac{3}{4}$  Bridge across the creek *Hêng Shan*, hill on r.
- 107 $\frac{1}{4}$  **Hsi-kua-t'ang-chên** (Si-k'o-tang-tsêng).
- 108 $\frac{3}{4}$  **Mutu**, P., small city, 1 $\frac{1}{2}$  miles long, intersected by canals. Hills in neighbourhood.
- 112 $\frac{1}{4}$  **Hsü-k'ou-chên**, last village on the creek.
- 112 $\frac{3}{4}$  The creek enters the *T'ai Hu* along a lane of rushes.  
From Soochow there are two other creeks leading into the lake, one via Kwangfu, the other via Pao-tai-ch'iao on Grand Canal, 2 miles S. of Soochow.  
The route follows the eastern shore as far as
- 123 $\frac{3}{4}$ ? **Miao-tzŭ-shan** (? Fêng-ch'i; local name, Fêng-tzŭ), village on mountain slope, from the top of which a fine view of the lake is secured. General direction SSW. From here by boat to
- 129 $\frac{1}{4}$  **Chêng-hua-chên** (Tsêng-huo-tsêng), village on Tung-t'ing Shan, the principal island of the T'ai Hu. It has a pier of rough-hewn stone, to the east of which is a busy creek crossed by a bridge.  
General direction SW. across southern part of T'ai Hu.
- 147 $\frac{1}{2}$  Mouth of the creek. Direction S.
- 154 Creek bifurcates. Route follows W. branch.
- 155 Bridge across creek.
- 156 $\frac{1}{4}$  Route meets creek coming from Ihing (see Route 1 D).
- 157 **HUCHOWFU**, P. T. West Gate.
- 158 $\frac{1}{4}$  *South Gate* of city.  
From here the itinerary is identical with that of Route 1 B, mile 168.
- 196 **HANGCHOW**, P. T. RS. **Foreign Settlement.**
- 201 $\frac{1}{2}$  *Pa-tzŭ Mên*, or Water Gate of Hangchow.

## (D) VIA LOSHE AND HUCHOWFU (196 miles)

A short creek connects Wusih with the T'ai Hu, but for the reasons given above (Route 1 C) boats prefer to follow canals round the lake. They leave the Grand Canal  $\frac{1}{2}$  mile N. of Loshe (a village situated  $8\frac{1}{2}$  miles NW. of Wusih). From there the route follows up the Loshe River to Hsi-t'ai Hu (Si-t'a Wu), a lake marked Kê Hu on maps. It then continues S. down the Pin-yün (Ping-ying) River to Ihing. Here it turns E., crosses a small lake (Tung-chou Hu or Tung-chü Wu), turns S., enters the T'ai Hu at Wu-ch'i-kuan (Wu-ch'i-kuei), follows the western shore of the lake as far as Kiapu, where it again leaves the lake by a narrow but straight creek. Farther S. the canal becomes broader and winding. It rejoins Route B just south of Huchowfu. The section from Ihing to the Great Lake is regularly navigated by steam-launches. The country is a network of creeks and canals, and many alternatives are doubtless available.

The canals followed are non-tidal throughout. The width varies considerably. The narrowest portion (10 yds. wide) is between Kiapu and Changhing. Usual width 30 to 120 yds. Two boats can pass everywhere. The average depth is from 8 to 12 ft. The shallowest portion of the route is a small lake 4 miles S. of Huchowfu, which is only 4 ft. 6 in. to 5 ft. deep, compelling the steam-launches to run dead slow. The channel here is marked by posts. There is practically no current except after heavy rain, at which times it sets towards the T'ai Hu in the two canals which open into the lake at Kiapu and Wu-ch'i-kuan. The strength depends on the rainfall, but probably never exceeds  $1\frac{1}{2}$  miles per hour. The banks as a rule are 4 to 6 ft. high and obstruct any view of the country from a boat.

The waterway is navigable throughout at all times of the year by boats or launches up to 4 ft. draught. The large lake, known as T'ai Hu, is said to be liable to frequent dangerous storms. Launches run once a day each way between Hangchow and Huchowfu, every day between Wu-ch'i-kuan and

Ihing. Boats sail, pole or *yulo*, towing being rarely possible owing to the numerous unbridged side streams and the trees which grow on the banks. Large numbers of boats can be obtained at Huchowfu, smaller numbers at Tikiang, Changhing, Kiapu, and Wu-ch'i-kuan.

The following numbers were counted in April, 1909 :

At Huchowfu—40 cargo-boats, 50 ft. by 9 ft., capacity about 24 tons ; 30 large house-boats, 10 to 15 men ; 40 smaller house-boats taking 6 to 8 men.

At Tikiang—120 boats of *Sampan* class, 25 by 3 ft. to 5 ft. ; 10 large house-boats taking 10 to 12 men ; 35 smaller boats taking 6 to 8 men.

At Changhing—10 large house-boats taking 8 to 10 men ; 50 smaller boats of *Sampan* class, 30 ft. by 4 ft.

At Kiapu—5 large junks ; 30 boats taking 20 men ; 80 smaller boats taking 6 to 8 men.

At Wu-ch'i-kuan—20 boats taking 20 men ; 40 smaller boats taking 6 to 8 men.

Navigation is never interfered with by ice. The channel could be obstructed by sinking boats in the narrow parts of the waterway or by breaking down the bridges.

Bridges are few in number. The usual type is a single-span stone-arch bridge, of which the arch is 20 ft. wide, with 12 ft. to 18 ft. headroom. All bridges are high above the water and not likely to obstruct navigation at any time. The lowest bridge is one with 12 ft. of headroom at Changhing.

The country immediately adjoining the route is flat, highly cultivated, intersected by numerous creeks and canals, and dotted with villages. Almost the whole of the land is given up to the cultivation of mulberry-trees, and these entirely obstruct all view. There are practically no roads at all ; communication is maintained by water, and there is, as a rule, no towpath to the canals, the trees growing close to the water's edge. West of the route a long range of hills rises steeply to heights of from 1,000 to 2,000 ft.

The houses in the villages are of brick or stone, and would

afford good temporary accommodation for troops. Rice is the chief article of food of the people of the country. Fish, poultry, eggs, and vegetables could be obtained in small quantities at all the larger villages. Large supplies of every description are found at Huchowfu. Water is plentiful in the creeks and canals, and is quite fit for use after being boiled. The fuel commonly used is wood or charcoal.

As far as the entrance of the Loshe River into the Grand Canal,  $\frac{1}{2}$  mile N. of Loshe, the itinerary is the same as that of Route 1 A.

miles from  
Chinkiang

64 $\frac{3}{4}$  *Hua-tu-ch'iao*, single-arch bridge 14 ft. above water and 5 $\frac{1}{2}$  yds. wide over entrance to the *Loshe River*, here 30 yds. wide, 8 ft. 5 in. deep. There is a winding path to N. of river.

For detailed description as far as Ihing see Route 16.

103 $\frac{1}{2}$  **IHING**, P. T., walled city (about 5,000 houses).

At West Gate creek to Liyanghsien and Wuhu turns W.—(see Route 16, mile 39 $\frac{1}{2}$ ).

The route lies along canal which flows through the city, passing through water-gates in W. and E. walls. The canal is crossed by a stone bridge in centre of city.

104 Canal, now 15 yds. wide, leaves by small East Gate, passes through small suburb and makes a sharp bend to l.

105 **Ch'i-shih** (Ch'i-sa), 60 houses, on r. Canal broadens out to 150 yards.

105 $\frac{1}{2}$  **Wang-hang**, 10 houses, on l.

106 $\frac{1}{2}$  **Kuan-yi-miao** (Kuei-i-miao), 2 houses, on r.

Canal opens into a lake, the *Tung-chou Hu* (Tung-chü Wu), following the southern shore.

108 *Shêng-shêng-kê* (Sêng-sêng-ko), conspicuous temple on r.

108 $\frac{1}{2}$  The route leaves the lake and enters a canal 100 yds. wide.

miles from  
Chinkiang

109

**Chang-shih-ch'iao** (Chiang-sa-ch'iao), 15 houses, on r.

The canal is here bridged by a three-span stone-arch bridge. Waterway of centre span 25 ft. wide, with 20 ft. of headroom.

110½

**Li-chang-tu** (Li-tsang-tu), 10 houses, on r.

111¾

**T'ang-chia-ts'un** (Tang-ka-ts'êng), 15 houses.

113

**Shu-shan** (Tso-sei), market village (200 houses). Pottery works. Moderate quantities of poultry, eggs, and vegetables to be obtained. The canal is only 15 yds. wide. While passing through the village it is bridged by a single-arch stone bridge: width of arch 24 ft., with 18 ft. of headroom. Beyond the village canal turns sharp to l. and then to r. For the first 2 miles it has an average width of 30 yds. and then broadens out to 100 yds. Towing impracticable owing to the numerous unbridged side creeks.

114

**Hsieh-chü** (20 houses), on l.

114½

**Shih-t'ang-ch'iao** (Sa-tang-chiao), 30 houses, on r.

116½

**Pai-nien-ch'ang** (Pa-ni-chiang), 4 houses, on r. Canal makes a sharp turn to l. Width about 40 yds.

117

**Wu-ch'i-kuan** (Wu-ch'i-kuei), village (80 houses). Canal bridged by a single-arch stone bridge; arch 20 ft. wide with 20 ft. of headroom.

117½

600 yards beyond the village canal (100 yds. wide) opens into the Great Lake (*T'ai Hu*). Route follows the W. shore and crosses the Kiangsu-Chekiang border, about 5 miles beyond.

125¼

**Ao-shan-miao** (Ngo-sei-miao). Temple and light-house on a low spur close to the shore of the lake.

127½

Route turns out of the lake by a creek to r. Towing impossible owing to trees and numerous unbridged side-creeks.

miles from  
Chinkiang

- 127 $\frac{3}{4}$  **Kiapu**, P., village (80 houses), chiefly on r.  $\frac{1}{4}$  mile from the shore of the T'ai Hu. Single-arch bridge over canal 25 ft. wide with 15 ft. of headroom. Width of canal 15 yds.  $\frac{3}{4}$  mile beyond this village canal turns to r. and widens again to 30 yds. Here it passes under a three-span stone-slab bridge, centre span 20 ft. wide with 12 ft. of headroom.
- 129 **Yang-hsü-ts'un** (Yang-si-ts'êng), 6 houses, on l.  $\frac{3}{4}$  mile beyond this village the canal narrows to a width of 15 yds. for  $\frac{1}{4}$  mile, after which it widens again to 30 yds.
- 130 $\frac{1}{2}$  **Hou-yang-ts'un** (Heu-yang-ts'êng), 45 houses, on l.  $\frac{1}{2}$  mile beyond this village the canal narrows to 10 yds. for a distance of nearly  $\frac{1}{2}$  mile.
- 131 $\frac{1}{2}$  **Ch'iu-t'ang-ts'un** (Chiu-tang-ts'êng), 10 houses, on l. Before entering this village the canal passes under a stone-slab bridge of five spans; centre span 17 ft. wide with 12 ft. of headroom,
- 132 $\frac{1}{2}$  **T'ang-peï-ts'un** (Tang-po-ts'êng), 15 houses, on r.
- 133 $\frac{1}{2}$  **Hsi-pai-ch'ien** (Si-pa-ch'i), 6 houses, on r.
- 134 $\frac{3}{4}$  **Changhing**, P., a walled city (1,500 houses), on r. It is of the *hsien* class, and under Huchowfu. The canal runs parallel to the E. wall through the small E. suburb. There are 4 bridges over the canal here; the lowest, leading to the East Gate, has 12 ft. of headroom; the narrowest—that leading to the small East Gate—has a centre span of 15 ft. wide. The city is quite unimportant, and no supplies beyond small quantities of vegetables, eggs, and poultry could be obtained. From here onward towpath available. Just beyond the city the canal bends to l., then sharply to r.
- 135 $\frac{3}{4}$  **San-li-ch'iao** (Sei-li-chiao), 3 houses, on r. Canal bends to l. and becomes 15 yds. wide.
- 136 $\frac{1}{4}$  **Ssü-li-ch'iao**, village (10 houses) on l.

miles from  
Chinkiang

- 136½ **Wu-li-ch'iao**, village (4 houses) on l. Canal broadens again to a width of about 40 yds. The towpath here crosses the canal from r. to l. bank by a single-arch stone bridge, with a waterway 40 ft. wide, and 20 ft. of headroom.
- 136¾ **Shih-chia-ku** (Ssü-ka-ku), village (10 houses) on r.
- 138 **Kua-t'ang-ch'iao** (Ko-tang-chiao), village (20 houses) on both sides of the canal. Stone-slab bridge of 5 spans over canal; centre span 21 ft. wide, 20 ft. headroom.
- 139½ **Chang-wang-miao** (Tsang-wang-miao), temple on l.
- 140¾ **Lü-shan** (Li-sei), 60 houses, on both banks. The canal here turns to l. and becomes narrower. In this village there are two stone-slab bridges over the canal. The centre span of the smaller is 18 ft. wide, with 12 ft. of headroom. Towing becomes impossible owing to trees on the bank.
- 141½ **Pu-chien-ts'un** (Pu-si-ts'êng), 10 houses, on l.
- 142½ **Yin-ts'un-ch'iao** (Ying-ts'êng-chiao), 4 houses, on r. The canal is here bridged by a three-span stone-slab bridge; centre span 20 ft. wide, 12 ft. of headroom.
- 143 **Shih-chia-p'êng** (Ssü-ka-pang), 2 houses, on r.
- 144¾ **Po-shih-ch'iao** (Po-ssü-chiao), 20 houses, on both sides. The canal is here bridged by a stone-slab bridge of three spans; total width 45 ft., centre span 18 ft. wide, headroom 15 ft. Towing again becomes possible on l.
- 145½ **Kuei-chia-ts'un** (Kuei-ka-ts'êng), 2 houses, on r.
- 147¼ **Cha-shui-ch'iao** (Sa ssü-chiao), 6 houses, on l. Towpath crosses to r. Canal 20 yds. wide broadens out again after passing under single-arch stone bridge; waterway 15 ft. wide, 12 ft. of headroom.
- 148½ **Yang-chia-chuang** (Yang-ka-tsang), scattered village (50 houses) on r. Canal bends to l.

miles from  
Chinkiang

- 148 $\frac{3}{4}$  **Wu-chia-ti-mên** (Ung-ka-ti-mêng), 6 houses on l. Canal bends to r.  $\frac{1}{2}$  mile beyond the canal curves to r. for  $\frac{1}{4}$  mile and then to l.
- 149 $\frac{3}{4}$  **Ta-shui-wan** (Ta-sei-wei), village (6 houses) on l. Canal 120 yds. wide.
- 151 $\frac{1}{2}$  **HUCHOWFU**, P. T., walled city. Plentiful supplies of every description can be obtained. The canal passes through a suburb outside the *West Gate*. It is crossed here by a three-span stone-arch bridge; waterway of centre span 30 ft. wide with 20 ft. of headroom.
- 152 $\frac{3}{4}$  *South Gate*. The canal passes under a single-arch stone bridge; waterway 30 ft. wide, 20 ft. of headroom. Just outside the South Gate the canal joins Route 1 B.
- 190 $\frac{1}{2}$  **HANGCHOW**, P. T. RS., **Foreign Settlement**.
- 196 *Pa-tzü Mên* or Water-gate of Hangchow.

(E) VIA SHIHMEN CHE AND CHANGAN (about 201 miles)

This alternative route turns off from the Grand Canal  $\frac{1}{2}$  mile SW. of Shihmen Che in a southerly direction. A road and telegraph line follow the r. bank all the way to Hangchow. The Shanghai-Hangchow Ry. crosses the canal at Changan and again at Linping.

At Changan the Haining Canal (or Shang Ho) is entered by a haulover lock, up which boats of not more than 11 ft. beam can be hauled, if not too heavy.

miles from  
Chinkiang

- 171 **SHIHMEN CHE**, P. T.
- 171 $\frac{1}{2}$  Route leaves Grand Canal at a single-arch bridge,  $\frac{1}{2}$  mile SW. of the *Small South Gate* of the city. Hence nearly S. along the *Changan Creek*, following the main road and telegraph line to Hangchow. Creek about 30 yds. wide.



miles from  
Chinkiang

- 174 $\frac{1}{4}$  | **Chang-pu-yen** (Tsang-pu-yi). Six houses.  
Canal branches off here to Haining, P., 13 miles from Shihmen Che. Regular service of steam-launches.
- 176 $\frac{1}{4}$  | **Changan** (Tsang-an), P. T. RS. The Shanghai-Hangchow Ry. crosses from l. to r. bank. From here the route lies along the *Haining Canal*, to reach which boats must be hauled over a lock. General direction WSW.  
A creek leads SE. to Haining.
- 186 | **Linping**, P. RS. Railway line crosses again to l. bank.
- 198 | **Yao-chia-pa** (Yo-ka-po), a haulover lock by which boats pass to the lower level of the Grand Canal : see Route 1 A, sect. 6, mile 203 $\frac{1}{2}$ .
- 198 $\frac{1}{4}$  | **Shentang Che** (Sêng-tang-wăn), P., small village. Branch railway from Hangchow to the Foreign Settlement crosses the creek.
- 201 | **HANGCHOW**, P. T. RS., *Water-gate* (Pa-tzŭ Mên).

## ROUTE 2

### SHANGHAI TO FENGSIEN

*Authority* : H. R. Davies, Nov. 1906.

There are two water routes :

#### (A) VIA CHA-CHIANG (OR ZA-KANG) (35 $\frac{3}{4}$ miles)

General direction SE. This is the main waterway from Shanghai to Fengsien. The Huang-p'ü River is followed up to Cha-chiang, thence creeks are used. A small steam-launch runs every other day as far as Chang-chia-ch'iao at mile 25 $\frac{1}{2}$ , going thence through the northern part of Sinchang to

Nanhwei (Nên-wei-yüen) and returning from Nanhwei the next day. This launch tows one boat (or occasionally two) as far as Sinchang, but cannot tow boats from there on to Nanhwei, probably owing to sharp bends.

There is nothing to prevent launches from running between Sinchang and Fengsien. The creek is tidal as far as Sinchang. From here a slight current sets towards Fengsien. The width of the creek averages from 15 to 30 yds.

The least depth at low water in November is 4 ft. ; this is between Chang-chia-ch'iao and Sinchang. In the northern channel from Chang-chia-ch'iao to Sinchang 5 ft. would be the minimum depth, but at Sinchang in the cross-creek which joins the northern channel to the southern channel there is only 4 ft., and there are two bad bends, so that there is no advantage in taking the longer northern channel. Average depth of the route between Cha-chiang and Fengsien is 5-6 ft. at lower water in November.

All these depths would be 2 ft. greater in summer floods.

Bridges across the creek are numerous, averaging about three to every 2 miles. Most of them can easily be passed by a boat with a height of 10 ft. above the water. The lowest bridges are Chang-chia-ch'iao at mile  $29\frac{1}{2}$ ,  $9\frac{1}{2}$  ft. (not to be confused with the other Chang-chia-ch'iao at mile  $25\frac{1}{2}$ ), and a bridge at mile  $33\frac{1}{2}$  ( $\frac{1}{4}$  mile short of T'ou-ch'iao),  $8\frac{1}{2}$  ft. These heights would be 2 ft. less in summer floods.

The average breadth of span of bridges is 16 to 20 ft., the least is 14 ft. at Ts'ai-chia-ch'iao, at mile  $31\frac{1}{2}$ .

Towing from the bank would be practicable for most of the way, with occasional interruptions from unbridged side-creeks, but for about  $1\frac{1}{2}$  miles beyond Sinchang it would be difficult, owing to the large number of these unbridged creeks.

miles

0

**SHANGHAI**, P. T. RS. (see *Gazetteer*). Route starts from Custom-house jetty up the *Huang-p'u River*. The latter varies from 400 to 700 yds. in width, and is nowhere less than 20 ft. deep.

miles

For detailed description as far as Cha-chiang see Route 3 A.

- 15½ **Cha-chiang** (or **Za-kang** or **Za-kang-k'ou**), village (40 houses), lies  $\frac{1}{4}$  mile up a side-creek, here 70 yds. wide. Direction E.

Creek soon narrows to 40 yds. width. Banks not very good for towing, as unbridged side-creeks are numerous up to mile 16½. After this, towing is easy.

- 18½ **Lu-chia-hui** (**Lu-ka-wei**), village (200 houses), chiefly shops and inns. Supplies obtainable.

From other end of village, a creek, said to be navigable, goes off to l. to Chowpu, P.

- 21½ **Li-ting**, village (25 houses).

- 23½ **Hang-t'ou**, village (200 houses), chiefly shops and inns.

Creek to l. to Chowpu, said to be only passable for small cargo-boats.

- 25½ **Chang-chia-ch'iao** (**Tsang-ka-chiao**), 12 houses. Just beyond this the creek divides into two. The right-hand branch is the most direct and has most depth of water.

Going by the left-hand creek entails passing by a side-creek through Sinchang with a depth of under 4 ft. in November.

- 26 **Yung-hsing-ch'iao**, a three-span stone-slab bridge with stone piers. This is the lowest bridge between Cha-chiang and Sinchang. In November bottom of roadway is  $10\frac{1}{2}$  ft. above water; in summer floods it would be  $8\frac{1}{2}$  ft. Depth of water here in November  $4\frac{1}{2}$  ft.; this is the shallowest place between Cha-chiang and Fengsien.

- 27½ **Sinchang**, P. (**Sing-sang-tsêng**), a prosperous market town of 500 or 600 houses, chiefly shops. Good supplies obtainable.

From here a creek goes to Nanhwei, along which a steam-launch runs.

miles

From here till mile  $28\frac{1}{2}$  towing from the bank would be difficult, owing to numerous unbridged side-creeks. General direction of route alters here from E. to S. .

28 *Hui-chou Guild House*, a big building on the l. bank. Here a creek turns off to the l. and meets the Sinchang-Nanhwei creek. The present route turns sharp to the r.

$28\frac{1}{2}$  **Nio-wang-ch'iao**.

A creek to the l. to Ta-tên, said to be navigable for big boats.

$29\frac{1}{2}$  **Chang-chia-ch'iao** (Tsang-ka-chiao), 4 houses. Not to be confused with village of same name at mile  $25\frac{1}{2}$ . Three-span stone bridge,  $9\frac{1}{2}$  ft. from bottom of bridge to water, with  $4\frac{1}{2}$  ft. depth in November.

30 **Pu-chang-chia-ch'iao** (Pu-sang-ka-chiao), small village. Bridge same as last.

$30\frac{1}{2}$  *Yang-chia-tang*, a creek to the l., said to be navigable for big boats to Ta-tên.

$31\frac{1}{2}$  **Ts'ai-chia-ch'iao** (Ts'a-ka-chiao), 25 houses. Stone-slab bridge of one span, 14 ft. across; this is the narrowest bridge on this route.

$32\frac{1}{4}$  Big creek to l.

$32\frac{1}{2}$  **Erh-ch'iao** (Ni-chiao), 15 houses.

Creek to r. to T'ai-cha-ch'iao (T'a-za-chiao).

Just beyond village three-span wooden bridge  $9\frac{1}{2}$  ft. high. Centre span can be lifted if necessary.

$33\frac{1}{2}$  Three-span stone-slab bridge  $8\frac{1}{2}$  ft. above water. This is the lowest bridge on this route. Height would be only  $6\frac{1}{2}$  ft. in summer floods.

$33\frac{3}{4}$  **Towkiao**, P., village of 200 small houses. A creek to the l. here.

$35\frac{1}{2}$  North Gate of **Fengsien**, P., an official walled city of *hsien* class, containing 500 houses. Very poor place, but some supplies obtainable. Surrounded by good waterways. Five miles from the sea, with no water communication with it. (See *Gazetteer*.)

## (B) VIA P'U-HSING-CH'IAO (32½ miles)

General direction SE. This route follows the Huang-p'u River up to P'u-hsing-ch'iao (¼ beyond Cha-chiang Creek); thence along various creeks. It is 3 miles shorter than Route A, but owing to sharp bends in the part between P'u-hsing-ch'iao and Shên-hsiang-ch'ien, especially near Chin-hui-ch'iao, it is not so suitable for launches, though it would not be impossible to get launches drawing 3½ ft. along it, even at low water in November. At Shên-hsiang-ch'ien the route joins the main creek which connects Nankiao Ku with Fengsien.

The creek is tidal as far as Ch'ing-ts'un-chiang. Beyond this there is a sluggish current running from Fengsien.

The width of the creek varies from 10 to 15 yds.

The least depth at low water in November was 4 ft., shoaling to 3 ft. at the sides, near Chin-hui-ch'iao at mile 17¾, where the channel is 7 yds. wide. At Yi-ts'êng-po, mile 22½, there was also only 4 ft. of water.

Average depth of the water between P'u-hsing-ch'iao and Fengsien is 5-6 ft. All these depths would be 2 ft. greater in summer floods.

Bridges are numerous, averaging three to every 2 miles. The lowest is 11 ft., at Chang-ju-ch'iao, at mile 31; this would be 9 ft. in summer floods. This bridge also has the narrowest span of any bridge on this route, viz., 16 ft.

Towing from the bank would be practicable throughout, but owing to unbridged side-creeks some delay would be caused in places, especially (1) from P'u-hsing-ch'iao, at mile 15½ to Hui-min-ch'iao at mile 17¼; (2) from beyond Shên-hsiang-ch'ien, at mile 23¾, to near Fang-tun-ch'iao, at mile 26¾.

miles

0

**SHANGHAI.** From Custom-house jetty up the *Huang-p'u River*.

For detailed description as far as P'u-hsing-ch'iao see Route 3 A.

miles

- 15½ **P'u-hsing-ch'iao**, village (40 houses), ½ mile up a creek which runs into Huang-p'u River just beyond the *Cha-chiang* (or *Za-kang*) Creek. Direction S.
- 17¼ **Hui-min-ch'iao** (Wei-ming-chiao), 30 houses.
- 17¾ **Chin-hui-ch'iao** (Ching-wei-chiao), market village (120 houses); small supplies. Depth near here 4 ft., with channel 7 yds. wide, shoaling to 3 ft. at the sides.
- 19 **Hsing-ch'ang-ch'iao** (Hang-sang-chiao), 20 houses, on r.
- 20¾ **Hsü-li-ch'iao** (Si-li-chiao), 60 houses.
- 21½ **Tu-chia-ch'iao** (Tu-ka-chiao), 10 houses.
- 22½ **Yi-ts'un-pa** (Yi-ts'êng-po), 20 houses. Here creek makes a sharp turn to the l.  
Another creek off to the r. goes to Nankiao Ku.  
Depth here 4 ft. in November.
- 23¾ **Shên-hsiang-ch'ien** (Sêng-hang-sien), village (60 houses). Sharp turn again to the l., and direction becomes E. along the creek that connects Nankiao Ku with Fengsien.
- 25½ **Yüan-hsien-ch'iao** (Nüen-sien-chiao), 6 houses on l.
- 26¾ **Fang-tun-ch'iao** (Fang-têng), 6 houses. Five creeks meet here.  
A creek to the r. said to go to Chin-shan-hsien.
- 27¾ **Ch'ing-ts'un-chiang** (Ts'ing-ts'êng-kang), a small market town (300 houses). Fair supplies. Shops chiefly for sale of food. Town stretches along banks for more than ½ mile.  
From other side of town creek to l. said to go to T'a-cha-ch'iao.
- 30¾ **Nan-kao-ch'iao** (Nên-ko-chiao), market village (200 houses); some supplies. Creek makes a sharp turn to r. and sharp turn to l. again.
- 31 **Chang-ju-ch'iao** (Sang-sü-chiao), 10 houses. Bridge 11 ft. above water in November, 16 ft. span.
- 32¼ West Gate of **Fengsien**, P., walled town. (See *Gazetteer*.)

## ROUTE 3

## SHANGHAI TO KASHING (CHEKIANG)

*Authority* : H. R. Davies, Dec. 1906-Jan. 1907.

General direction SW. The Shanghai-Hangchow Railway affords the most direct line of communication between the two cities. Distance by rail 56 miles. (For details see Chap. IX, railway No. V.)

Besides the railway there are various water routes.

(A) NORTHERN ROUTE (63½ miles)<sup>1</sup>

This route has the advantage of being passable for launches all the year round. It follows up the Huang-p'u River for 30½ miles, then enters creek to Kashing, leaving Kashañ 1 mile to the S. The Southern Route branches off from it at mile 30½, and rejoins it at mile 54½.

The route is tidal as far as San-tien, 7½ miles short of Kashing. There is also a slight current running from Kashing towards Shanghai.

The Huang-p'u River varies from 300 to 700 yds. in width. The creeks followed vary much in width, averaging from 40 to 100 yds. While passing through the village of T'ai-p'ing-ch'iao, near Kashing, the creek is in one place not more than 20 yds. wide.

The depth is sufficient to allow of launches drawing 5 ft. navigating the route all the year. For the greater part of the route the depth very much exceeds 5 ft.

For the first 16 miles the banks of the Huang-p'u slope too gradually to admit of towing from the bank, but after 16 miles, towing is possible throughout, although it is very much interrupted by the constant crossing of unbridged side-creeks, as there is no road along either bank.

<sup>1</sup> According to the War Office MS. map of South Kiangsu, the distances have been underestimated especially between Ch'ing-liang-an and Fêng-t'ung-ch'iao.

The lowest bridge in the route is a three-span stone-slab bridge at the eastern end of T'ai-p'ing-ch'iao, at mile 61½; this is 13 ft. high in winter, and would be 10 ft. high at highest summer floods.

miles

- 0      **SHANGHAI**, P. T. RS. (see *Gazetteer*). Starting from the Custom-house jetty up the Huang-p'u River. Average width of river at first 500 to 600 yds.
- 3      *Arsenal Creek*, or Pa-lien-ching, going off to l. to Chwansha (Ts'êng-sho-t'ing) P. T., is passable for boats of 3 ft. draught.
- 4½      Creek to the r. to Sikawei and on to Sungkiangfu ; not always passable for boats drawing 3 ft. (see Route 6 B).
- 6½      A creek to the l. to Yang-ssü-ch'iao.
- 8      A creek to the r. to Chang-ch'iao (Zang-chiao).
- 11½      **Tangkow** (Tang-k'ou-ts'êng, or Tsou-p'u-tang) P., a growing town on l. bank.  
Here a creek goes off to the l. to Chowpu, passable for launches when the water is high.
- 13½      **Tukiahang** (Tu-ka-hang), P., 25 houses, on l. bank.  
A creek for small boats from here to the l. to Nanhwei.
- 15½      **Cha-chiang** (Za-kang), village (40 houses), ¼ mile distant on l. bank.  
A creek to the l. here, to Nanhwei and Fengsien. Launches run to the former : see Route 2 A.  
The river bends sharply to the W. here.  
300 yds. further on a creek to the l. through P'u-hsing-ch'iao to Fengsien : see Route 2 B.
- 16¾      **Pai-miao** (Pa-miao), small village on l. bank.  
A creek, said to be passable for large boats, goes off from here to the l. to Nankiao Ku.  
The river is still 500-600 yds. wide.
- 18½      **Minhang**, P., market town (500 houses) on r. bank.  
Large red temple at northern end of town.
- 20½      **Sha-chiang-shih** (Su-kang-ssü), 12 houses, on r. bank.



miles

- A creek to the r. here to Mao-ch'iao, said to be passable for big boats.
- 24 Creek to the r., said to lead to the Sikawei creek, and to be passable only for small boats.
- 24½ **Tê-shêng** (Tê-sêng), 25 houses, with *likin* station on r. bank.  
Creek to r. to Wo-yang-ch'iao.
- 25½ Creek to r. to Wo-yang-ch'iao, said to be passable for small boats only. River has narrowed to 350 yds.
- 28½ Creek to the r. through Ta-t'ieh-ch'iao to Sungkiangfu.  
Creek to the l. to Chang-tsê-chên (Tsang-sê-tsêng).
- 29½ Few houses on r. bank.  
**Mi-shih-tu** (Mi-ssü-tu), village of few houses on r. bank. The main creek to Sungkiangfu goes off from here to the r. : see Route 6 A.
- 29¾ Creek to r., up which launches run about 1 or 2 miles to Hsiao-chiao (Siao-ko), from which place small boats connect with the West Gate of Sungkiangfu : see Route 3 D. There is no village at Hsiao-chiao ; it is the name of a bend in the creek.
- 30 A wide creek goes off to the r., said to lead to Chang-ch'iao (Zang-chiao), 2 miles W. of Sungkiangfu.
- 30¾ The route turns sharp to the r.  
A creek going straight on leads through Kashan to Kashing, and is the route for launches to Kashing, when the water is high : see Route 3 B. A branch of this creek also leads to Pinghu : see Route 3 C.
- 32½ **T'a-chiang** (T'a-kang), village (20 houses) and *likin* station on r. bank.  
A small creek from here to the r. towards Sungkiangfu.  
The river is still 200 yds. in width.
- 33½ A creek to the r. front, said to lead to Chukiakio.  
A creek to the l. to **Huang-ch'iao-chên** (Wang-chiao-tsêng), 1 mile off.

miles

- 34½ **Li-wu-shê** (Li-ung-so), 15 houses. The route turns sharp to the l. and narrows to 100 yds.  
A creek going straight on forms the launch route through Pingwang to Huchowfu : see Routes 4 A and 1 B.
- 35½ **Wu-shê** (Ung-so), 30 houses, on l. bank ; ferry.  
In this neighbourhood the Shanghai-Hangchow Ry. crosses the creek.
- 36 The route turns to the l.  
A wide creek goes off to the r., said not to be navigable far for big boats.
- 36½ A creek to r., said to lead to **Liu-tiao-wan** (Lo-tiao-wän), 1 mile off.
- 37½ **Fên-wu-t'ou** (Fêng-wo-tou), 10 houses, on r. bank.
- 38½ Creek to l. front, said to lead to Fengking.  
The main creek narrows to 50 or 60 yds.
- 39¾ **Lin-chia-t'ang** (Lin-ka-tang), 50 houses, on r.
- 40½ **Tu-chia-ts'un** (Tu-ka-ts'êng), village of 40 houses  
200 yds. off on r. bank.
- 42½ Creek to l., said to lead to Fengking.
- 44½ Creek turns to the r. into village of **Ch'ing-liang-an** (Ts'ing-liang-ên), 25 houses and large number of brick-kilns.  
Sharp turn to the l. here.
- 45½ Route turns sharp to the r.  
A creek goes off to the l. to Fengking.
- (?)<sup>1</sup> **Chiang-ho-pêng** (Kang-wu-pang), 40 houses.
- 47¾ Creek to l., said to lead to North Gate of Kashan, and to be passable for small boats only.  
**Ch'ien-ching** (Ts'ien-ching), 30 houses, on r. bank.
- 48 The creek turns sharp to the l. : width here, 80 yds.  
Another creek goes off to the r., said to lead to Sitang and eventually to Soochow.

<sup>1</sup> According to the War Office MS. map, the distance between bends at mile 45½ and mile 48 is 4½ miles instead of 2½ miles. According to the same map Chiang-ho-pêng is about 3½ miles distant from bend at mile 48.

miles

- 49 $\frac{1}{4}$  Route turns sharp to the r. A creek continues straight on to N. Gate of Kashan.
- 49 $\frac{3}{4}$  **Fêng-t'ung-ch'iao** village (15 houses) and three-arch stone bridge across the creek.
- 50 $\frac{1}{4}$  Three-span stone-slab bridge.
- 51 **Kuan-yin-ch'iao**, village (20 houses) and one-arch stone bridge. Large market village of **Tu-yo-lang** (also called Kan-yao)  $\frac{1}{4}$  mile off on the r.  
Here the creek narrows to 25 or 30 yds.
- 51 $\frac{1}{2}$  Route enters a creek 80 or 100 yds. wide, and follows it to the left.  
To the r. it is said to lead to Lu-ch'ü, and to be passable for big boats.
- 53 The route turns sharp to the r.  
Another creek leads straight on, joining the direct Kashan-Kashing creek at the western end of the western suburb of Kashan, which it reaches in 1 mile. It is passable for launches, the least depth in January being 5 $\frac{1}{2}$  ft. at the bridge which crosses it where it joins the direct Kashan-Kashing route. This creek, however, is not habitually used by launches, because when the water is low they cannot get on to the city of Kashan. Passengers from Kashan are brought in boats by this creek to meet the launches at the junction with the present route.
- 53 $\frac{1}{2}$  **San-ching-chiang** (Sän-ching-kang), 25 houses and one-arch stone bridge.
- 54 $\frac{1}{4}$  Route turns sharply to the l. Another creek goes off to the r.
- 54 $\frac{3}{4}$  Passing a half-ruined temple and a big tree on the r., enters the direct Kashan-Kashing creek (Route 3 B) and turns to the r. along it.
- 55 $\frac{1}{2}$  **San-tien** (Sän-tien), village (30 houses) and five-span stone-slab bridge.  
A bridged creek to the r., said to lead to Yang-miao-chên.

miles

57½ **Kao-ti** (Ko-ti), 10 houses. A creek to the r., said to lead to Yang-miao-chên.

59 **San-chien-t'ang** (30 houses).

59½ A creek to the r., said to lead to Yang-miao-chên.

60 **T'ang-hui** (Tang-wei), market village (350 houses) on r. bank. Just before entering village, the creek in one place is narrowed by dams to a width of 10 yds. This channel is said to be closed at night as a protection against thieves.

In the middle of the village a creek crossed by a one-arch stone bridge goes off to the r., said to lead to Lili, and to be passable for big boats.

61½ **T'ai-p'ing-ch'iao** (T'a-ping-chiao), market village (150 houses). Three-span stone-slab bridge at entrance to village. Height above water, 10 ft. at highest summer floods, 13 ft. in winter. Creek narrows to 20 yds. here.

In middle of village a bridged creek goes off to the r., and is said to lead to Grand Canal.

61¾ **Ch'iu-ching-ch'iao** (Ts'iu-ching-chiao). One-arch stone bridge.

A creek, not passable for launches, goes straight on here towards the North Gate of Kashing.

The route turns to the r.

62½ Enter the Grand Canal at village of **Ti-ssü-yüan** (25 houses), opposite parade ground (see Route 1 A, mile 142½). Turn to the l. down Grand Canal, passing Catholic Mission and Custom-house on the l.

63½ **KASHING**, P. T. RS., large walled city, abundant supplies (see *Gazetteer*). Route ends at North Gate.

### (B) SOUTHERN ROUTE (63½ miles)

This route is only passable for launches when the water is high. Water of sufficient depth is usually found in the

autumn and in part of the summer. When passable it is preferred by the launch companies to the Northern Route, because it passes through Kashan. It is always passable for boats drawing 3 ft.

The route is tidal as far as the East Gate of Kashan, and becomes tidal again for a short distance from a point a mile or two beyond Kashan, up to San-tien,  $7\frac{3}{4}$  miles short of Kashing.

There is also a slight current from Kashing towards Shanghai.

The least width is 15 yds. while passing round the moat of Kashan.

The depth is sufficient all the year round for launches drawing 5 ft. up to Chang-ching-hui at mile  $48\frac{3}{4}$ , and again from the bridge in the western suburb of Kashan at mile 53 on to Kashing. It is, therefore, only for  $4\frac{1}{4}$  miles, and when the water is low, that it is too shallow for launches. The shallow places (measured in January 1907) were Chang-ching-hui bridge, 4 ft. at low tide; near East Gate of Kashan, 4 ft. at low tide; near West Gate of Kashan, 4 ft.; at bridge in western suburb of Kashan, 3 ft. The stretch of 3 miles from Chang-ching-hui nearly to the East Gate of Kashan, has 6 ft. and more at low tide.

Towing from the bank is not possible for the first 16 miles of the Huang-p'u River owing to the gentle slope of the banks. After 16 miles towing is possible, but would be much interrupted owing to unbridged side-creeks. There are roads on the banks only from mile  $35\frac{3}{4}$  to Chuking at mile  $37\frac{1}{4}$ , and from the further end of Fengking at mile  $45\frac{1}{2}$  to Kashan at mile  $51\frac{3}{4}$ .

The lowest bridge is a three-span stone-slab bridge at the eastern end of T'ai-p'ing-ch'iao at mile  $61\frac{1}{4}$  (Route 3 A): this is 13 ft. above water-level in winter, and 10 ft. at highest summer floods.

Between Fengking and Kashing the Shanghai-Hangchow Ry. is never more than a few miles away from the creek.

miles

- 0      **SHANGHAI.** From Custom-house jetty up the *Huang-p'u River*.  
      For details up to mile 30 $\frac{3}{4}$  see Route 3 A.
- 30 $\frac{3}{4}$       Routes 3 A and B divide. Route 3 A and route to Pingwang (see Route 4 A) turn westward.
- 31 $\frac{3}{4}$       **T'un-lai-miao** (T'ên-lei-miao), village (60 houses) on r. bank; distillery on l. bank.
- 33 $\frac{1}{2}$       **Wang-ch'uan-tu** (Mang-zên-tu), 40 houses, on r.
- 34      A creek 150 yds. wide goes off to the l., the launch route to Pinghu (see Route 3 C). The creek followed narrows to 100 yds.
- 35 $\frac{3}{4}$       Creek turns sharp to the l. From here a road runs down the r. bank, but stops at Chuking.
- 37 $\frac{1}{4}$       **Chuking** (Tsu-ching), P., market town (800 houses) on left bank. The magistrate of Chin-shan-hsien lives here. The creek turns sharp to the r. again.
- 38 $\frac{1}{4}$       Ferry. Road begins again down r. bank, but ends at Mao-ch'iao.
- 40      **Mao-ch'iao** (Mo-chiao), village (12 houses) and few little shops on r. bank.  
      Just beyond this, small creeks go off to the l. front and r. front, the former leading to Hsing-t'a.  
      The main creek then narrows to 40 or 50 yds. Least depth at low tide in winter 7 ft.
- 44 $\frac{1}{2}$       **FENGKING**, P. RS., large market town (1,000 houses) on r. bank. A small creek runs on into the town, but the main creek turns to the l. just short of the town. Just after turning this corner is the stopping-place for launches on r. bank. Launches run here daily from Shanghai all the year. The boundary between Kiangsu and Chekiang provinces is a bridge in the middle of Fengking, the town being half in one province and half in the other.
- 45 $\frac{1}{2}$       The creek touches the other end of Fengking and turns to the l. It narrows here to 20-30 yds. in places.

- miles      From here on to Kashan a road follows the r. bank of the creek.
- 48½      **Chang-ching-hui** (Tsang-ching-wei), 30 houses, on l. bank, and one-arch stone bridge across creek. This is the limit in winter for launches drawing more than 4 ft., as the water at this bridge is 4 ft. deep at low tide, 5 ft. at high tide.
- After the bridge at Chang-ching-hui the water at once deepens again to 6-10 ft.
- 50½      **KASHAN**, P. T. RS., a walled city of 1,800 houses (see *Gazetteer*). The E. suburb begins here on the r. bank.
- 51      One-arch stone bridge. Houses now on both sides of creek, but principal street on r. bank.
- 51½      One-arch stone bridge. Here the water shallows to 4 ft. at low tide in winter, 5 ft. at high tide.
- 51¾      From the East Gate turn to the l. along the moat. The route to the r. round by the North Gate is shallow. After passing the SE. corner of the city, the water deepens again to 6 ft. in winter. The tide is not felt beyond the East Gate.
- 52¼      Passing under a one-arch stone bridge at the South Gate.
- 52¾      From the West Gate turn to the l. away from the city through a suburb.
- 53      A creek to the l. front, said to lead to Tung-cha-k'ou. Main creek is crossed by a one-arch stone bridge; 3 ft. depth of water here in winter. Beyond this the creek deepens and becomes passable for launches again. 200 yards beyond this, a bridged creek passable for launches goes off to the r., and meets the northern Shanghai-Kashing launch route (Route 3 A) in 1 mile. Suburb ends here.
- 54¾      The northern launch route joins in from the r. just short of a small black temple on the r. bank. For details see Route 3 A, mile 54¾.
- 63¼      **KASHING**, P. T. RS., large walled city (see *Gazetteer*). Route ends at North Gate.

(C) VIA PINGHU (75 miles)

This is the main launch route from Shanghai to Pinghu, up to which town it is passable for launches of 5 ft. draught all the year round. It follows up the Huang-p'u River for  $30\frac{3}{4}$  miles, and then goes by creeks which average 60 yds. in width. The least width is 20 yds. The creek is tidal all the way to Pinghu. There is also a slight current from Pinghu towards Shanghai.

Beyond Pinghu the route is not used by launches, as there is not sufficient depth. It is navigable for boats drawing up to  $2\frac{1}{2}$  or 3 ft. Its least width is 10 yds. close to Kashing, but for most of the way it is from 40 to 80 yds. wide. Its least depth is at Tung-cha-k'ou, from  $2\frac{1}{2}$  to 3 ft. at low winter-level. The average depth is considerably more than that. The creek is not tidal, but has a sluggish current from Kashing towards Pinghu.

Towing from the bank is not possible for the first 16 miles of the Huang-p'u River owing to its gently sloping banks. After 16 miles, towing is possible as far as mile  $45\frac{1}{4}$ , but would be much interrupted by unbridged side-creeks. From mile  $45\frac{1}{4}$  to Pinghu towing is impossible owing to mulberry trees planted close down to the water's edge on both sides. Beyond Pinghu towing is practicable almost throughout, being only interrupted by houses while passing through the suburb of Pinghu, and at Tung-cha-k'ou.

There are no bridges low enough to cause any difficulty to boats.

miles

- |                 |   |
|-----------------|---|
| 0               | <b>SHANGHAI.</b> From Custom-house jetty up the <i>Huang-p'u River</i> .<br>For details up to mile $30\frac{3}{4}$ see Route 3 A. |
| $30\frac{3}{4}$ | From here Route 3 A goes off to r.  |
| $31\frac{1}{2}$ | <b>T'un-lai-miao</b> (T'eng-lei-miao), village (60 houses) on r.  |
| 34              | Route turns sharp to l., Route 3 B continuing by a creek straight on.<br>Width 100 to 150 yards.                                  |



miles

- 35½ **Chüeh-ch'ai-tu** (Chüeh-za-tu), few houses on each bank ; ferry.
- 36 **CHUKING**, P., market town (800 houses) 1 mile away on r., with small creek leading to it.
- 37½ Sharp turn to r. Width, 80 to 100 yds.
- 37¾ **Sha-hua-tao** (So-hou-tao). The creek divides into two branches which meet again in ½ mile.
- 40 Creek 60 yds. wide to l., said to narrow soon and to be passable only for small boats to Sintai. This creek is said to form the *Kiangsu-Chekiang* boundary. Main creek about 60 yds. wide here.
- 40¾ **Shui-p'u-t'ang** (Ssü-p'u-tang), timber dépôt on l. ; ferry.
- 42½ **Lung-t'ou-ho** (Lung-tou-wu), village of 25 houses on r. ; ferry.
- 44 **Mao-chia-yü** (Mo-ka-yü), village (15 houses) on both banks ; ferry.
- 45½ **Sintai** (Sing-ta-chên), P., market town, said to contain 500 houses, about 1 mile away to r.  
Creek to l. said to be passable for small boats to Pinghu.  
From here onward towing becomes impossible owing to mulberry trees planted close to the water on both banks.
- 46 **Wang-tun-fang** (Wang-têng-fang). Ferry and scattered houses.
- 48½ **Nan-chang-tou** (Nên-tsang-tou). Ferry. Village close to l. bank.  
A creek goes off to the l. front, said to be a round-about way to Pinghu for small boats.
- 49¾ Creek comes in from r., said to come from Kashan.  
The route turns sharp to l. and creek narrows to 30 or 40 yds.
- 51 **Chao-chia-miao** (So-ka-miao), village (15 houses) on both banks ; ferry.

miles

- 52     **Pai-t'ang-pêng** (Pa-tang-pang), village (15 houses) on l. ; ferry.
- 53     **Wu-wang-ch'iao**, village (12 houses) on l. ; ferry. Remains of a broken bridge.
- 54½     **Yi-chia-yü** (Yi-ka-yü), village (50 houses).  
A creek from l., crossed by stone-slab bridge.  
Main creek has, for a short distance, narrowed to 20 yds., but here opens out to 150 yds.
- 55½     **PINGHU**, P. T., walled city of 1,200 houses (see *Gazetteer*). The route reaches the three-arch stone bridge near the N. end of the eastern suburb. Launches and most of the boats stop here.  
From Pinghu two creeks lead to **Chapu**, P. T., a seaport for junks. The more direct creek, 8 miles long, is navigable only by boats of not more than 3 ft. draught. The longer route, 10 miles long, has nowhere less than 5 ft. of water at its lowest. For further details see Military Report on Chekiang.
- 57½     Boats start from near the *West Gate* of Pinghu by a creek which soon widens to about 40 yds., with a straggling suburb along the r. bank. General direction W.
- 58     Three-arch stone bridge. Here the suburb ends. Towing-path from here along r. bank.
- 59½     A creek goes off to the l., said to lead to Haiyen.
- 64½     **Sinfeng**, P., market village (500 houses) along r. bank ; supplies obtainable. At the entrance to the village is a fine one-arch stone bridge called *Têng-yün-ch'iao*, with large stone abutments ; in the middle of the village is another bridge, and beyond the farther end of it a third.
- 67     *Chiao-shan-mên-ch'iao* (Tsiao-sän-mêng-chiao), three-arch stone bridge. Towing-path crosses tol. bank.
- 69½     **Shih-pa-li-ch'iao** (Ssü-pa-li-chiao), 20 houses, on both banks, with three-arch stone bridge.
- 70½     **Yang-chia-ts'un** (Yang-ka-ts'êng), village (40 houses)

miles

on r. bank. The creek about here has an average width of 60–80 yds., occasionally widening out to 150 yds. or more.

73 $\frac{1}{4}$  **Tung-cha-k'ou** (Tung-sa-k'ou), market village (500 houses); supplies obtainable. Just before reaching the village the creek widens out to 250 yds.

A creek from Kashan comes in from the r. rear.

The creek narrows again in the village, and the road along its bank crosses by bridge in the middle of the village to the r. bank. The creek here has sometimes only 2 $\frac{1}{2}$  ft. to 3 ft. of water.

73 $\frac{3}{4}$  A wide creek goes off to Kashan and Shanghai.

74 $\frac{1}{2}$  A creek goes off to the left to Nên-yen.

Here the creek narrows to 10 yds. in width.

75 **KASHING**, P. T. RS., large walled city (see *Gazetteer*). Route ends at East Gate.

#### (D) VIA SUNGKIANGFU (about 67 miles)

This alternative route is not to be recommended, as it is not passable for launches, and in places at low tide in winter there is not more than 1 ft. of water.

For detailed account see Route 6 B.

miles

0 **SHANGHAI**. From Custom-house jetty up the *Huang-p'u River*.

29 $\frac{1}{2}$  **SUNGKIANGFU**, P. T. RS., walled city of 2,000 or 3,000 houses (see *Gazetteer*). The route enters moat at North Gate. Thence it continues by small creeks via W. Gate, and turns W.

30 $\frac{3}{4}$  Route turns S.

32 $\frac{1}{2}$  *Hsiao-chiao* (Siao-ko). Creek widens and deepens, and is used by launches running between Shanghai and Kashing (see Route 3 A).

33 $\frac{1}{2}$  Route joins the northern route to Kashing (see Route 3 A, mile 29 $\frac{3}{4}$  onward).

67 **KASHING**.

## ROUTE 4

## SHANGHAI TO PINGWANG

*Authority* : H. R. Davies, Feb. 1907.

General direction WSW. There are alternative water routes :

## (A) VIA LILI (67½ miles)

This is the direct route from Shanghai to the market town of Pingwang, which lies on the Grand Canal between Soochow and Kashing. It is regularly navigated all the year round by launches drawing 4 to 5 ft.

The route follows up the Huang-p'u River and branches off at mile 34½ from the northern route to Kashing (see Route 3 A). The last 14 miles into Pingwang are through a continuous succession of lakes.

The route is tidal as far as Chia-ching-chiang at mile 46½. There is also a moderate current running from Pingwang towards Shanghai.

There are no bridges.

There is no road along either bank of any part of this route.

Towing from the bank is impracticable for the first 16 miles of the Huang-p'u River, owing to the gentle slope of the banks. After mile 16, towing would be possible till the lakes were reached, but it would be much interrupted by numerous unbridged side creeks.

miles

0

**SHANGHAI**, P. T. RS. (see *Gazetteer*). From the Custom-house jetty up the *Huang-p'u River*.

For detailed description see Route 3 A.

34½

**Li-wu-shê**. The northern route to Kashing (Route 3 A), goes off to l.

Width of creek 200 yds., gradually narrowing to 150 yds. The creek is here called *Yü-si-ching*.

miles

36½ **Chu-ch'iao** (Tsu-chiao), village, 40 houses, on l.; ferry. In this neighbourhood Shanghai-Hangchow Ry. crosses the creek.

41¾ **Yo-chia-pêng** (Yo-ka-pang), village (15 houses) on l.; ferry. Creek has narrowed to 100 yds.

43 Province boundary. A small stream forms the boundary between Kiangsu and Chekiang, the latter province being now entered.

43½ **Ch'ih-chia-pêng** (Ssü-ka-pang), 25 houses, on r. bank. The creek has narrowed to 60 yds.

44½ **Yü-hui** (Yü-wei), 40 houses, on both banks.

Creeks go off to the r. to Chukiakio and to the l. to Kashan.

A lake called *Tung-ch'ien-t'ang* (Tung-sien-tang) is passed on the l. before entering the village.

45½ The *Yeh-t'ang* is passed on the l.

46½ **Chia-ching-chiang** (Ka-ching-kang), a long-shaped village (80 houses), chiefly brick kilns, on l. bank. From here onwards the creek is not perceptibly tidal.

46¾ **Lu-chia-chiang** (Lo-ka-kang), 20 houses, on r. bank. Just before reaching it, route turns to the l.

Creek goes off to the l. to Ting-chia-cha (Ting-ka-za).

47½ Route enters the *Sitang Lake* and crosses it.

48½ Route leaves the Sitang Lake by a creek.

49 The creek widens for a short distance.

A creek to the r. to Kintseh (Ching-za-tsêng).

49½ A creek to the l. to Sitang. The route turns to the r. Width 80 yds.

49½ A creek to the r. to Chukiakio.

The route turns to the l. and narrows.

50¾ A creek to the l. to Sitang.

52 The route turns to the r.

A creek goes straight on to Tao-chuang (Tao-tsuang), and a creek to the l. to Sitang.

52¾ Route enters the *Ssü-chia-t'ang* (Ssü-ka-tang) and crosses it.

miles

- 53½ Route leaves the *Ssü-chia-t'ang* by a creek.
- 53½ Route enters the *Luhü-t'ang* (or Lu-hsü, or Lu-k'uei, local Lu-ch'ü) and proceeds along it.
- 53¾ Route leaves the *Luhü-t'ang* by a creek 100 yds. wide at first.
- 54¼ Pass the south end of **Luhü Ku** (Lu-ch'ü), P., a market town (600 houses). Just short of *Luhü Ku*, the provincial boundary is recrossed from Chekiang into Kiangsu.
- 54½ Route enters the *Fên Hu* (Fêng Wu) and proceeds along it. Launches keep to the north of the small island near its eastern end.
- 57½ Route leaves the *Fên Hu* at its western end by a creek 30–50 yds. wide, passing through the straggling village of **Yu-chia-chiang** (Yu-ka-kang), 150 houses, which stretches along the creek for nearly a mile.
- 58¾ Route enters the *P'u-lu-tang* and proceeds along it.
- 59½ Route leaves the *P'u-lu-tang* by a creek 30 yds. wide, afterwards widening to 100 yds.
- 60¼ After a sharp turn to the r., route enters the *Ho-yeh-tang* (Wu-yeh-tang) and crosses it.
- 61 Route follows a channel into the *T'ieh-pi-tang* and proceeds along it.
- 61½ Another channel into the *T'a-tang*.
- 62¼ Another channel into the *Liu-chia-tang* (Lo-ka-tang). Route proceeds near its northern shore.
- 62¾ Route turns N. out of the *Liu-chia-tang* by a creek 80 yds. wide.
- 63½ Route enters the *Niu-t'ou Hu* and continues near its south shore. Here the market town of **LLL**, P. (800 houses) is passed ¼ mile on the r.
- 64 Through narrow channel into the *Yang-chia-tang* (Yang-ka-tang) and across it.
- Here the route from Chukiakio to Pingwang joins in from the r.—see Route 4 B, mile 61.

miles

- |     |  |
|-----|--|
| 64½ | <b>Liu-li-sha</b> (Lo-li-su), 50 houses, on farther shore of Yang-chia-tang. Route leaves the Yang-chia-tang by creek 40 yds. wide.                                |
| 65½ | Route enters the <i>Hsi Hu</i> and follows it to the l.<br>Here the low-water launch route from Soochow to Kashing is joined. (See Route 1 A, sect. 5, mile 125½.) |
| 66¼ | Leave the <i>Hsi Hu</i> by a creek 30 yds. wide.   |
| 67  | Enter <i>Grand Canal</i> and turn up it in north-westerly direction.   |
| 67½ | <b>PINGWANG</b> , P., market town (800 houses).  |

## (B) VIA CHUKIAKIO (64½ miles)

This route can be conveniently divided into 2 sections :

(1) *Shanghai to Chukiakio* (38½ miles)

General direction WSW. This is the main water route from Shanghai through Tsingpuhsien to Chukiakio.

It is navigated by launches all the year round, but launches of only 4 ft. draught are used when the water is low. The route follows the Soochow Creek as far as Ssü-chiang-k'ou or 'Four-Waters' at mile 26, and then turns southwards by a creek to Tsingpuhsien, 40 yds. in width, increasing to 100 yds. and more after that city is passed.

The only shallow places are :—at the stone bridge in northern suburb of Tsingpuhsien, 4-4½ ft. at lowest winter-level ; at the Small West Gate, 4½-5 ft. ; at the Big West Gate, 5-5½ ft.

The creek is not tidal after it leaves the Soochow Creek at Ssü-chiang-k'ou. There is a slight current from Ssü-chiang-k'ou towards Tsingpuhsien and also from Chukiakio towards Tsingpuhsien. The two currents meet at Tsingpuhsien and run away southwards towards the Huang-p'u River.

The bridge at the Small West Gate of Tsingpuhsien is about 12 ft. high in winter. It is said that in summer floods it is sometimes too low for a big launch to pass.

After passing Ssü-chiang-k'ou towing from the bank is practicable throughout, except where interrupted by houses in Paihokang. The towpath leads down the right bank from Ssü-chiang-k'ou to Tsingpuhsien and down the left bank beyond Tsingpuhsien.

miles

- 0     **SHANGHAI.** From the mouth of the *Soochow Creek*. For detailed description to mile 26, see Route 5 A.
- 26     *Ssü-chiang-k'ou* (Ssü-kang-kou or Four-Waters). From here turn sharply southwards by a creek which averages 40 yds. in width. Creek not tidal. Slight current towards Tsingpuhsien. A good towpath, passable for horses, goes down the r. bank.
- 27 $\frac{1}{4}$    **Paihokang** (Pa-wu-kang), P., market village (350 houses), chiefly on r. bank. Two one-arch stone bridges cross the creek in the village
- 29     **Tutsun** (Tu-ts'êng), P., village (50 houses) on r. bank with few small shops. Creek crossed by one-span stone-slab bridge on stone abutments.
- 31 $\frac{1}{4}$    Large Confucian temple 300 yds. distant on r.
- 33 $\frac{1}{2}$    **Ts'ang-t'ou** (50 houses), on both banks.
- 33 $\frac{3}{4}$    **TSINGPUHSIEN**, P., a walled city of 1,000 houses (see *Gazetteer*).  
North suburb begins here.
- 34     The creek is crossed by a one-arch stone bridge. Winter depth here sometimes as little as 4-4 $\frac{1}{2}$  ft.
- 34 $\frac{1}{4}$    North Gate of city. Route turns to the r., going round the W. side of the city by a moat 30 to 40 yds. wide.
- 34 $\frac{1}{2}$    Little West Gate. Winter depth here 4 $\frac{1}{2}$  to 5 ft.  
Here a creek goes off to the r. through a small suburb to the Soochow Creek and on to Kunshan. It is said to be passable for boats of 3 or 4 ft. draught.
- 35     Big West Gate. Here the route leaves the city, turning away westward by a creek 100 to 120 yds. wide. The path now goes down the l. bank. The current runs from Chukiakio towards Tsingpuhsien.



miles

- 37 A creek to the l., said soon to become smaller. Its mouth is crossed by a three-arch stone bridge.
- 38½ **CHUKIAKIO** (Tsu-ka-ko), P., a large market town (800 houses), with better shops and more trade than Tsingpuhsien. The creek is crossed here by a five-arch stone bridge. The launch wharf is a little beyond this bridge.

(2) *Chukiakio to Pingwang* (26 miles)

General direction W. This is the direct route between these two large market towns. It is not passable for the ordinary launch drawing 4–5 ft., as the depth in Wan-yü-t'ang is only 3½ to 4 ft., in Chin-tsê, 3 ft., and in the creek which joins the Yu-sang-t'ang and the Niu-t'ou Hu, 4½ ft.

It is always passable for boats drawing 3 ft.

The route passes through a succession of lakes.

Towing from the bank is therefore not practicable for most of the way.

There are no bridges low enough to obstruct traffic.

There is no tide, but a moderate current runs through both lakes and creeks from Pingwang to Chukiakio.

miles

- 38½ **CHUKIAKIO**, P. From the 5-arch stone bridge. At about 200 yds. a bridged creek goes off to the l. front, but rejoins the present route at mile 41½.
- 38¾ Catholic church on l. bank. Here town ends. The creek is 100 yds. wide.
- 40 *T'ien Shan*, a hill 50 ft. high on r., with large temple. Creek crossed by one-arch stone bridge. Creek has narrowed to 40 or even 20 yds.
- 41½ Enter another creek running across at right angles. The route turns to the l.
- Creek to r. to the *T'ien-shan Hu* (lake).
- 41¾ Route turns sharp to the r.

miles

Alternative creek from Chukiakio joins in from l.  
A creek goes straight on to Tsang-lien-tang.

There is a small temple here on l., between the  
present route and the Tsang-lien-tang creek.

42 $\frac{1}{4}$  *Wan-yü-t'ang* (Vän-yü-tang). Route crosses this  
lake. Average depth 4 ft. Least depth 3 $\frac{1}{2}$  ft.

42 $\frac{1}{2}$  The lake is here narrowed by the banks approaching  
each other.

A creek to r. leads to the T'ien-shan Hu, another to  
the l. into the Huang-p'u River.

43 $\frac{3}{4}$  Reach the other side of the Wan-yü-t'ang. Thence  
by creek 200-400 yds. wide.

44 $\frac{1}{2}$  The creek gradually widens into the *Hsi-ts'ên-*  
*t'ang* (Si-sêng-tang).

45 $\frac{1}{4}$  *Hou-yang Hu* (Hê-yang Wu, lake), joined to the  
*Hsi-ts'ên-t'ang* by a narrow neck of water.

45 $\frac{3}{4}$  **T'ien-shan-chuang** (Tien-sän-tsang), 30 houses, on  
further bank of the Hou-yang Hu. Hence by creek  
15-20 yds. wide and 5 ft. deep.

46 Enter the *Ta-hua Yang* (Tu-huo, lake), which is  
crossed.

47 $\frac{1}{4}$  **Tung-t'ien** (15 houses) on further shore of the Ta-  
hua Yang. Here a small lake called *Chou-chia-t'ang*  
(Tsou-ka-tang) is entered.

47 $\frac{1}{2}$  Turn to r. out of the *Chou-chia-t'ang* by creek  
30-40 yds. wide.

48 **Kintseh** (Ching-za-tsêng), P., market town (600  
houses). The creek turns to l. and runs through the  
town, being here crossed by two bridges. Depth at  
the first bridge 3 ft.

49 Enter the *Hsüeh-lo Yang* (Sieh-lo, lake) and cross it.

50 **Chiu-shui-tun** (Ch'iu-ssü-tän), 70 houses, on farther  
bank of the Hsüeh-lo Yang. Hence by creek 40 yds.  
wide.

50 $\frac{3}{4}$  Cross the *Han-lang-tang* (Hên-lang-tang, lake).

51 $\frac{1}{4}$  Turn out of the *Han-lang-tang* by creek 40 yds. wide.

miles

52½

At some brick works a little short of Luhü Ku route turns to r.

A creek also goes straight on through the middle of Luhü Ku, but is narrow and full of boats. It joins the present route in Luhü Ku.

53

**Luhü Ku** (Lu-ch'ü-tsêng), P., a market town (500 houses). Northern end of it is reached after passing under a one-arch stone bridge.

53¼

After passing round the end of Luhü Ku, route turns sharp to the l.

A creek goes straight on to Tungli Ku.

53½

Route enters the *Fên Hu* (Fêng Wu, lake) and proceeds along it.

56½

Route leaves the *Fên Hu* at its western end by a creek 40–60 yds. wide.

The launch route from Shanghai to Pingwang enters the *Fên Hu* at the south end of Luhü Ku, and turns out of the lake by another creek ½ mile south of the exit of the present route (see Route 4 A, mile 57½).

57

Route enters the *Mu-kua-tang* (Mo-kuo-tang), and keeps along near its southern shore.

57½

**Wu-shih** (Wo-ssü), 25 houses, on farther side of *Mu-kua-tang*, whence a creek 40–50 yds. wide is entered.

58¼

Route enters the *Lan-ch'iao-tang*, and crosses it.

An alternative route goes off from here to the left front through Lili, rejoining the route in the Niu-t'ou Hu. It is said to be narrow and much obstructed by boats in the town of Lili.

58½

Route passes through a narrow channel into the *Tu-ping-t'ang* and crosses it.

Here a creek goes off to the l. into Lili.

59¼

Route passes through another narrow channel into the *Yu-sang-t'ang* and crosses it.

60

Route leaves the *Yu-sang-t'ang* by a creek 30 yds. wide passing **Chieh-tzü-tu** (Tsieh-tsü-tu). Depth 4½ ft.

miles	
	<b>LILI</b> , P., a market town (800 houses), with a Catholic church, is passed $\frac{1}{4}$ mile distant on l.
60 $\frac{1}{4}$	After passing under a stone-slab bridge the creek turns to r. A creek goes to l. into Lili.
60 $\frac{3}{4}$	Route enters the <i>Niu-t'ou Hu</i> (lake) and crosses it.
61	Route passes through a narrow channel into the <i>Yang-chia-tang</i> . Here route joins the launch route from Shanghai to Pingwang, which passes south of Lili (see Route 4 A, mile 64).
61 $\frac{3}{4}$	<b>Liu-li-sha</b> (Lo-li-su), 50 houses on farther shore of the <i>Yang-chia-tang</i> . Leave the lake by a creek 40 yds. wide.
62 $\frac{3}{4}$	Enter the <i>Hsi Hu</i> (lake), and follow it along to the l. A creek goes straight on across the <i>Hsi Hu</i> , joining the <i>Grand Canal</i> $1\frac{1}{4}$ miles north of Pingwang.
63 $\frac{1}{4}$	Leave the <i>Hsi Hu</i> by a creek 30 yds. wide.
64	Enter the <i>Grand Canal</i> . Turn up it in north-westerly direction.
64 $\frac{1}{2}$	<b>PINGWANG</b> , P., market town (800 houses).

## ROUTE 5

## SHANGHAI TO SOOCHOW

*Authority*: A. H. Hilton-Johnson, Oct. 1906.

General direction, WNW. The two cities are connected by the Shanghai-Nanking Ry. Distance by rail,  $53\frac{1}{2}$  miles (for details, see Chap. IX, railway No. I). There are also two alternative water routes:

(A) VIA SAN-CHIANG-K'OU (THREE-WATERS), about 70 miles

This is the main water route by the Soochow Creek. It is tidal to Hwangtu. Average range of rise and fall of tide,

8½ ft. at mouth of creek ; average force of tide, 3 miles per hour.

Its average width is 50 yds., and average depth 12 ft.

It is a regular steam-launch route, and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other practically anywhere.

The country generally is flat and well cultivated, and has a moderately wooded appearance. Much of it is swampy and impassable, especially west of Four-Waters. The banks for the first 10 miles are high enough to prevent any view from boats.

A continuous towpath, passable for animals and wheelbarrows, extends only for a few miles beyond the suburbs of Shanghai ; elsewhere it is frequently broken and submerged, and often disappears completely.

The alternative route B runs via Kunshan, and west of that place is connected with the main route by several creeks running N. and S.

miles

- |     |   |
|-----|---|
| 0   | <b>SHANGHAI</b> , P. T. RS. (see <i>Gazetteer</i> ). From the mouth of the <i>Soochow Creek</i> . Suitable place at which to embark troops on the <i>Soochow Creek</i> , whilst avoiding congestion near its mouth, will be found near, and W. of, the <i>Markham Road Bridge</i> . |
| 5   | <b>St. John's College</b> , on r.   |
| 5½  | <b>Fan-hsiang-tu</b> (Vän-wang-tu). Ferry. This marks approximately the western limit of Shanghai. Hereafter ferries are of fairly frequent occurrence.   |
| 7¼  | <b>Chou-t'ai-o-miao</b> (Tsou-tai-a-miao), 50 houses, on r.   |
| 8¾  | <b>Hsin-tu</b> (Sing-tu). Ferry.  |
| 10½ | <b>Chang-chiang-tu</b> , on l. Ferry.   |
| 12  | <b>Yeh-chi-tun</b> (Ya-chi-tên), mound on l., 40 ft. high, giving good view.<br>Creek to r. leads to Kiatinghsien (see Route 7 D).  |
| 15  | <b>Chang-chia-chên</b> (Zang-ka-tsêng), on r.   |
| 17  | Sharp bend to E.  |
| 19¼ | <b>Lung-wang-tu</b> .   |

miles

22

**HWANGTU, P.**, market town along creek  $\frac{1}{2}$  mile to r. (700 houses). Half-mile E. of town on r. bank is a *camp*, about 200 yds. by 40 yds., enclosed by a mud wall 12 ft. high and 2 ft. thick on top, exterior slope  $\frac{2}{3}$ , surrounded on N., E., and eastern half of S. side by outer earth bank 10 ft. high. Both bank and wall are easily surmountable by infantry, and neither has a ditch that would offer serious obstacle to assault. Country is enclosed on W.; open on N. and E., but broken and offering good cover for attack. The camp was occupied in October, 1906, by about 350 old-style infantry.

From here the country is more level, banks are lower, and extensive view from boats is obtainable, especially to S.

Creek branches off to NE., leading to Taitsang (Route 7 B) and Kiatinghsien (Route 7 D).

26

**Ssü-chiang-k'ou** (Ssü-kang-k'ou or Four-Waters), formed by the junction of two smaller creeks with the main one. No village.

Creek to l. leads to Tsingpuhsien and Pingwang (see Route 4 B). Creek to r. leads to Waikang (see Route 7 C).

Country very low-lying: extensive marshes border the creek on S. From here country on both banks becomes more wooded.

27½

**Mei-pu-kou**, on r. Direction SW.

29

**Ko-siao-miao** (local name), on l. Direction NW.

30

Creek winds again S. for about 1 mile, then W.

33½

**Sing-ssü** (local name), on l. Creek winds N.

35

**Lukiapeng, P.**, market town  $\frac{1}{2}$  mile up creek to r. (300 houses). From here country is even flatter, and extensive view is obtainable from boats. Three miles W. the creek broadens out for some miles into impassable swamps.

42

**San-chiang-k'ou** (Three-Waters), formed by the

miles

junction of the *Ch'ing-yang Chiang* with the main creek. No village. Route continues W.

Creek to N. leads to Kunshan (see Route 5 B), and to Taitsang (see Route 7 A). From here westwards the creek broadens considerably: submerged banks in mid-stream are frequent, and careful navigation is necessary. For about 2 miles the channel lies some 80 yds. from south bank. Country is very low and often flooded and impassable, especially on S. bank.

43½ **Chou-hsiang-chên** (Tsou-hang-tsêng), ½ to S. up side creek.

47½ **Tu-t'ou-ts'un-shih**, ¼ mile on l. on side-creek.

55 Tall tree, situated about ¼ mile inland on l., on E. bank of creek going SSW., is a well-known feature or landmark to all natives of the district, and is named the *Lin-yen-shu* (Ling-ê-zên).

From here a short-cut route proceeds W. via T'ang-p'u.

Submerged banks and shallows are frequent, but there is ample water in the channel at all seasons.

60 The route leaves the Soochow Creek and turns W. and NW. via the *Hu-ti-t'an* (Lake).

60½ **Chefang** (Ts'u-fang-tsêng), P., on r. near entrance to the Hu-ti-t'an.

61½ **Kao-tien-chên** (Kao-ti-tsêng), 100 houses, on r.

62½ Route enters the *Tu-shu Hu* (To-zü Wu) and crosses the SW. corner of the lake.

67½ **Pao-tai-ch'iao** (Po-ta-chiao), a 53-arch bridge about 300 yds. long, multiple arch type, spanning eastern end of a small lake. Largest arch is 80 yds. from northern end of bridge, and is 12½ ft. high and 7 yds. wide at average water-level. At each end of bridge is a *camp* about 100 yds. square, surrounded by an earth bank 9 ft. high at a slope of 1 in 1, with a small ditch and interior banquette. Occupied in October, 1906, by guard of 10 men.

miles

Route turns N. into the Grand Canal.

A by-route by which Soochow city may be avoided goes west from the bridge for 4 miles past Five Arch Bridge (*Wu-lung-ch'iao*, local name, 'Ng-lung-chiao) and the village of **Hsin-kuo-hi** (Sin-ko-li), then turns N. via **Hengtang** (Wang-tang), P., and joins the Grand Canal at **Fengkiao Ku**, Fung-chiao-tsêng; see Route 1 A, mile 97½). The summer depth and waterway are in some places restricted to 5½ ft. and 4½ yds. respectively, and the headroom under the lowest bridge to about 8 ft.

About 1 mile N. of Fifty-three Arch Bridge on l. is a block of barracks about 200 yds. by 250 yds. with accommodation for 1,500 men. It is surrounded by a brick wall 8 ft. high and 15 in. thick (not built for defence). Good field of fire to N. and S., more enclosed on W. Occupied in October, 1906, by a regiment of the Ch'a-ming-chün.

69½

**SOOCHOW**, P. T. RS. (see *Gazetteer*). Route ends at SE. corner of city. Custom-house and Foreign Settlement on l. Spacious waterway, absence of native buildings and ample dry land accommodation.

This point is in direct water communication with all the city gates.

To the N. creek leads to *Lou Mên* (2½ miles); to the W. to *Hsü Mên* (2¾ miles).

### (B) VIA KUNSHAN (about 69 miles)

This route is identical with Route A as far as San-chiang-k'ou (Three-Waters), thence proceeds N. and W. via Kunshan. Between these places the creek averages 100 yds. wide and 15 ft. deep, with low banks and intermittent towpath.

The Kunshan-Soochow section is a branch of the Grand Canal. It is non-tidal but has a sluggish current usually flowing E. Average width 30 yds.; average depth 9 ft. It



is not a regular steam-launch route but is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other anywhere. The country generally is flat, well cultivated, and has a moderately wooded appearance. Much of it, especially on the N. bank, is below summer water level and liable to floods. W. of Cheni the country is mostly dry and passable. The banks are low, in bad repair, and broken through in many places. A good view is obtainable from boats. There is a towpath throughout, much broken by water in summer ; it is also interrupted by a few unbridged creeks.

The Shanghai-Nanking Railway crosses the creek about  $2\frac{1}{2}$  miles N. of San-chiang-k'ou. From Kunshan to Soochow the railway line runs parallel to the creek first on l., then on r., crossing the creek by a bridge about 4 miles W. of Kunshan.

miles

0

**SHANGHAI.** From the mouth of the *Soochow Creek*.

For details to mile 42 see Route 5 A.

42

*San-chiang-k'ou* (Three-Waters). Route turns N.

44 $\frac{1}{2}$

Railway line crosses the creek.

47

Route turns W.

Branch E. goes to Taitsang (see Route 7 A).

48

**KUNSHAN**, P. T. R.S. (see *Gazetteer*). Route approaches by *East Gate*, thence proceeds either by S. or N. of city to SW. corner, where it enters branch of Grand Canal and goes W.

The railway station is some distance south of the city.

51 $\frac{3}{4}$

**T'ao-sang-ts'un**, on l.

54

Railway crosses to r. of creek.

55 $\frac{1}{2}$

**Cheni** (Chêng-i-tsêng), P. R.S., market town up creek on r. (800 houses).

59 $\frac{1}{2}$

**Weiting** (I-ting), P. T. R.S., market town mostly on r. (600 houses).

Cross *Sha Hu* (So Wu) on the N., a breakwater dividing the lake from the canal.

miles	
65½	<b>Waikwatang</b> ('Nga-ku-tang), P. RS., market town on r. (150 houses).
68	<b>SOOCHOW</b> , P. T. RS. East suburb. Waterway much congested by boats, timber, and overhanging houses.
68½	<i>Lou Mên</i> , northern of two gates in E. wall. It is in direct water communication with all other gates.

## ROUTE 6

## SHANGHAI TO SUNGKIANGFU

*Authority* : H. R. Davies, Dec. 1906.

General direction, SW. The Shanghai-Hangchow Ry. connects the two cities. Distance by rail, 22 miles. (For details see Chap, IX, railway No. V.)

There are alternative water routes :

## (A) VIA THE HUANG-P'U RIVER (32 miles)

This route is to be preferred to Route B, as it is passable for launches up the Huang-p'u River to mile 29½. Launches might even reach the southern part of Sungkiangfu itself by going up the creek at high tide. Usually they run up another creek starting at mile 29½. They stop 1 or 2 miles up the creek at Hsiao-chiao, from which place small boats connect with the West Gate of Sungkiangfu (see Route 3 D). In actual distance Route B is 2½ miles shorter than the present route.

The Huang-p'u River varies from 300 to 700 yds. in width. The creek from the river to Sungkiangfu is from 15 to 25 yds. wide, 3 ft. deep in winter at low tide, and 6 ft. at high tide.

Towing from the bank is not possible for the first 16 miles of the Huang-p'u River, owing to low, gently sloping banks.

After that it is possible, but is somewhat interrupted by unbridged side-creeks.

miles

- |     |  |
|-----|--|
| 0   | <b>SHANGHAI</b> , P. T. RS. (see <i>Gazetteer</i> ). Starting from Custom-house jetty up the <i>Huang-p'u River</i> .<br>For details see Route 3 A.  |
| 29½ | <b>Mi-shih-tu</b> (Mi-ssü-tu), village of few houses on r. bank. From here turn to the r. up a creek which at first is 25 yds. wide, but narrows to 15 yds. It is too shallow for launches except at high tide.  |
| 30½ | A Catholic church at a place called <b>Têng-chi-pêng</b> , ¾ mile away on the l. Depth here, 3 ft. at low tide, 6 ft. at high tide.  |
| 32  | <b>SUNGKIANGFU</b> , P. T. RS. (see <i>Gazetteer</i> ). Route passes under a one-arch stone bridge into the moat of the city between the South Gate and the SW. corner. Moat here 12-15 yds. wide. From here deeper water is found by turning to the l. as far as the West Gate, thence turning to the r., but at low tide there does not seem to be more than 1½ ft. of water in any part of the moat, with 2½ to 3 ft. at high tide. Most of the boats are to be found near the West Gate. |

### (B) VIA SIKAWEI CREEK (29½ miles)

This alternative route is not to be recommended, as it is not passable for launches.

The route goes up the Huang-p'u River for 4½ miles, and then turns up the Sikawei or Hill Creek, which it follows till mile 23, and then turns southward to the North Gate of Sungkiangfu.

The least depth is 1 ft. at low tide in winter near mile 14, with sometimes barely 2 ft. at high tide. Boats are sometimes grounded here waiting for spring tides.

The least width is 7 or 8 yds. at low tide in winter.

Bridges are all too high to cause any difficulty, except the one at mile 5, under which boats over 7 ft. high could not pass at high tide.

Towing from the bank is practicable from mile 5 to mile 23, except when passing through large villages where the houses come down to the water's edge.

Beyond mile 23 towing is somewhat interrupted by unbridged side-creeks.

miles

- 0 **SHANGHAI.** From the Custom-house jetty up the *Huang-p'u River* (see Route 3 A).
- 4½ *Mouth of Sikawei Creek.* Turn up the creek, here 30 yds. wide and 4 ft. deep at low tide, leaving on r. a large red building which is a paper factory.
- 5 Creek crossed by five-span wooden bridge on road to **Lunghwa, P. RS.** Bridge 7 ft. high at high water, 10 ft. or more at low water.
- The creek soon narrows to 15 yds.
- 5½ On reaching the French Sikawei Road the creek turns along it to the l.
- 7½ **Sikawei, RS.,** village of 50 houses, with observatory and other large buildings of Catholic Mission. From here for some miles the course becomes very winding. Width at low tide, 7 or 8 yds.; at high tide, 10 or 12 yds. Depth in winter 2 ft. at low tide, 4½ ft. at high tide.
- Near Sikawei the Shanghai Loop Line crosses the creek.
- 11½ **Hungkiao Ku, P.** (120 houses); small market. A five-span wooden bridge in middle of village.
- 12½ **Hsin-ch'iao** (Sing-chiao), 40 houses. Five-span wooden bridge. Between here and Tsipao is the shallowest part of the creek, the depth being 1 ft. in winter at low tide, and 1½ to 2 ft. at high tide. In summer the depth would usually be increased by 1 ft. or more.
- 15 **Tsipao, P.,** market village (400 houses), with a Catholic church. The creek is crossed by three stone bridges in this village.
- Creek here 12-15 yds. wide, and 2 ft. deep [at low

miles

- tide in winter. Tide beyond this is not felt except at springs.
- 17 **Hsiao-tu-chên** (Siao-tu-zên), 10 houses, with three-span stone-slab bridge. Depth  $2\frac{1}{2}$  ft. at low tide. There is a rise of nearly a foot at spring tides, but ordinary tides do not come up to here.
- 18 **Chiu-li-miao**, likin (Customs) station of 2 houses.
- 19 **Lung-tsu-ch'iao** (20 houses), with three-span stone-slab bridge.
- 19 $\frac{1}{4}$  **Wang-t'ang**, village and Catholic church  $\frac{1}{4}$  mile to r. Creek has widened here to 20 or 30 yds. with 5 ft. depth.
- 20 The present route takes a sharp turn to r., widening out to 100 yds.  
A creek goes straight on southwards from here, leading to the East Gate of Sungkiangfu, but it is reported very shallow.
- 20 $\frac{1}{2}$  **Szeking** (Ssü-ching), P., market town (700 houses) with a Catholic church; good shops. The creek, whilst passing through the town, narrows in places to 25 or 30 yds., and is crossed by three three-arch stone bridges. It widens out to 120 yds. beyond the town.
- 21 $\frac{1}{2}$  A little beyond the other end of Szeking, a creek goes off to the l. to the East Gate of Sungkiangfu; it is said to have 3 ft. of water at high tide, but not much more than 1 ft. at low tide. (The tide, though not felt here, is felt again near Sungkiangfu.)  
The present route, though about a mile longer, is generally preferred as having deeper water.
- 23 Passing the small village and Catholic church of **Yang-chia-kung** (Yang-ka-kung) on the r., the creek turns sharp to the l., another creek turning to the r. to Tsingpuhsien and also joining into the Soochow Creek at Hwangtu.
- 23 $\frac{1}{4}$  A creek turns off to the r. to what are known as 'The Hills'; on the top of the highest of these

miles

(325 ft.) is a French Mission observatory called *Zo-se* (Zo-sän).

24½ **Tang-ch'iao** (50 houses), with a broken three-arch stone bridge. The two left-hand arches are constricted by the ruins of the bridge. Only the r. arch is passable; - only 3 ft. depth here.

Another creek turns off here to r. to 'The Hills'.

Just here the creek narrows to 30 yds., but immediately opens out to 150 yds. with 6 ft. depth, then gradually narrows to 100 and then to 70 yds.

27½ **Tu-t'a-pêng** (40 houses), on l. Creek narrows to 40 yds. with 2½ ft. depth.

28½ **Wu-li-t'ang** (Ung-li-tang), Catholic church and few houses on r. Creek has narrowed to 15 yds. with depth of 2½ ft. at low tide. Tide of a few inches here.

29¼ **SUNGKIANGFU**, P. T. R.S. (see *Gazetteer*). North suburb begins here.

29½ Enter the moat at *North Gate* of city. Width of moat about 12 yds. Depth 1½ ft. at low tide, 2½ ft. at high tide.

## ROUTE 7

### SHANGHAI TO TAITSANG

*Authorities* : A. H. Hilton-Johnson, Nov. 1906 (Route B), Feb. 1907 (Routes A, D and E); H. J. Harding, Aug. 1906 (Route E); War Office Map, Shanghai and Neighbourhood, 1908.

General direction, NW. There are three water routes :

(A) VIA SAN-CHIANG-K'OU OR THREE-WATERS (54 miles)

This is the main water route. As far as mile 42 it is identical with Route 5 A. Beyond that point the creek is non-tidal, but has a sluggish current flowing south for the first 5 miles.

Average width, 100 yds.; average depth, 15 ft. It is a regular steam-launch route and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other anywhere.

The country is flat, well cultivated, much intersected by creeks, and has a moderately wooded appearance. Much of it is swampy and impassable.

The banks are low, and a good view from boats is obtainable. The towpath is intermittent only.

The Shanghai-Nanking Ry. crosses the creek about  $2\frac{1}{2}$  miles N. of San-chiang-k'ou.

miles

- |     |   |
|-----|---|
| 0   | <b>SHANGHAI</b> , P. T. RS. (see <i>Gazetteer</i> ). From the mouth of the <i>Soochow Creek</i> . |
|     | For details to mile 42 see Route 5 A.   |
| 42  | <i>San-chiang-k'ou</i> or Three-Waters. Route turns N.  |
| 44½ | Railway line crosses the creek.   |
| 47  | Route turns E.  |
|     | Branch W. goes to Kunshan (see Route 5 B).  |
| 53½ | <b>TAITSANG</b> , P. (see <i>Gazetteer</i> ). Route enters W. suburb and continues straight on.   |
|     | R. branch goes to Hwangtu (Route 7 B), Kiating-hsien (Route D), and Liuho Ku (Route E).           |
| 54  | <i>West Gate</i> . It is in water communication with North and East Gates via W. wall only.       |

#### (B) VIA HWANGTU (about 44 miles)

This is the most direct water route, but its utility is restricted. As far as mile 22 it is identical with Route 5 A. Beyond mile 22 the creek is non-tidal, but has a sluggish current flowing SE. Average width 20 yds., average depth 6 ft. It is not a regular steam-launch route, but is navigable in summer for vessels up to  $3\frac{1}{2}$  ft. draught and 14 ft. beam (limited by bridges). The length of tow would be greatly restricted by a narrow and very tortuous section of creek 2 miles SE. of Taitsang. In addition to this section, there

are a number of points where large boats would be unable to pass each other. In winter the above section of creek is only  $1\frac{1}{2}$  ft. deep in places.

The country is flat and well cultivated, has a moderately wooded appearance, and is much intersected by creeks. Otherwise it is generally dry and passable. Mounds 30–40 ft. high occasionally occur, from the top of which a good view can be obtained. The banks often obstruct the view from boats.

There is a continuous path, passable for animals and wheelbarrows, approximately following the course of the creek, but it is only available as a towpath between Waikang and Ko-lun-ts'un, and beyond Nan-ma-t'ou. Elsewhere no continuous towpaths exist.

The Shanghai-Nanking Ry. crosses the creek at mile 26.

miles

- |     |  |
|-----|--|
| 0   | <b>SHANGHAI.</b> From the mouth of the <i>Soochow Creek</i> .<br>For details see Route 5 A.  |
| 22  | Mouth of <i>Hwangtu Creek</i> . Route turns NE.  |
| 22½ | <b>HWANGTU, P.</b> , market town, 700 houses; $\frac{1}{4}$ mile beyond route turns l.   |
| 24½ | <b>Ying-wang</b> (30 houses), on l.; beacon mound <i>Huo-ning-t'ai</i> 40 ft. high on r.   |
| 25½ | <b>Tsa-chia-ch'iao</b> (Tsa-ka-chiao), bridge; village on r. (100 houses).   |
| 26  | Railway bridge. Waterway 5 yds.  |
| 27½ | <i>Pa-tzü-ch'iao</i> , three-span stone bridge, waterway 5 yds.; 500 yds. W. is <i>Yeh-tun</i> mound, 30 ft. high.   |
| 29  | <b>Fangtaichen, P.</b> , market town (200 houses).<br>The creek, which from a point 300 yds. SE. runs NE. to Kiatinghsien (4 miles), is navigable for very small boats only. |
| 30½ | <i>Sha-chiang-ch'iao</i> (Shui-kang-chiao), bridge, waterway 5 yds. Village <b>Li-chia-pêng</b> (50 houses), on r.   |
| 32  | <b>Waikang</b> (Nga-kang-tsêng), P., market town (500 houses).   |



miles

From here the main creek to Kiatinghsien goes E. (see Route 7 D).

34½ **Ko-lun-ts'un** (Ku-lung-tsêng), market town (300 houses).

Just beyond here the creek divides, the branches rejoining 2 miles from West Gate of Taitsang.

Route follows branch going r. Branch going l. is shorter, but its navigability is limited by small entrance bridge.

36¾ **Hsin-yung** (Sin-yung), market town on l. (100 houses).

37½ **Wang-p'u-tang** (30 houses), on l. From here creek becomes narrow and very tortuous.

39½ **Nan-ma-t'ou** (No-mu-tei), straggling village on r. (100 houses), continuing across wide creek which is entered near far end of village.

This creek leads to Liuho Ku and the Yangtse (see Route 7 E). Route turns l.

40½ **Si-wu-chiao** (local name), wooden bridge, and hamlet on r.

41¾ Mouth of a creek. This is the branch going l. from Ko-lun-ts'un.

Route turns r.

42¾ **TAITSANG, P.** (see *Gazetteer*). Route enters SW. suburb and turns r.

Branch on l. goes to Kunshan (8 miles; see Route 7 A).

43½ *West Gate.*

#### (C) VIA SSŮ-CHIANG-K'OU OR FOUR-WATERS (about 46 miles)

As far as mile 26 this route is identical with Route 5 A. Beyond mile 34½ it is identical with Route 7 B. No details available, but the creek appears to be shallower and less frequented than the alternative described under Route 7 B.

miles	
0	<b>SHANGHAI.</b> From the mouth of the <i>Soochow Creek</i> . For details to mile 26 see Route 5 A.
26	<i>Ssü-chiang-k'ou</i> (Four-Waters). Route turns r. into narrow creek.
27 $\frac{3}{4}$	<b>Anting</b> (Ê-ting-tsêng), P. T. RS.
28 $\frac{3}{4}$	Creek crossed by railway. Station to W. of bridge.
30	Route turns NW. Creek comes in from S.
32 $\frac{1}{2}$	Route turns sharply NE.
33 $\frac{3}{4}$	<b>Waikang</b> , P., $\frac{3}{4}$ mile E. (connexion with the town not shown on maps).
34 $\frac{1}{2}$	E. side of town. For details from this point see Route 7 B.
46	<b>TAITSANG</b> , P. <i>West Gate</i> .

## (D) VIA KIATINGHSIEN (42 miles)

As far as mile 12 this route is identical with Route 5 A. Beyond mile 30 $\frac{1}{2}$  it is identical with Route 7 B. The following remarks refer to intervening section only.

The creek is tidal nearly to Kiatinghsien; average force of tide 2 $\frac{1}{2}$  miles per hour. Average width of creek 20 yds., average depth 6 ft. It is not a regular steam-launch route, but is navigable W. of Kiatinghsien for large launches always, and SE. of that place for vessels up to 3 $\frac{1}{2}$  ft. draught and 12 ft. beam in summer and at highest tides in winter. The draught is restricted by a bar about  $\frac{1}{4}$  mile long close to Yeh-chi-tun, and the beam by a narrow bridge near the South Gate of Kiatinghsien. There are many points at which two large boats could not pass.

The country is flat and well cultivated, has a well-wooded appearance, and is much intersected by creeks. Otherwise it is generally dry and passable. Only a very limited view from boats is obtainable owing to high banks.

The towpath is intermittent to Nansiang and continuous beyond; passable for animals and wheelbarrows.

miles

- 0 **SHANGHAI.** From the mouth of the *Soochow Creek*.  
For details see Route 5 A.
- 12 **Yeh-chi-tun** (or Ya-chi-tên). Route turns r. into  
narrow creek, very shallow for first  $\frac{1}{4}$  mile.
- 13 $\frac{3}{4}$  **Chiang-ch'iao** (Kang-chiao), market town chiefly on  
r. (400 houses).
- 17 Railway crosses creek.
- 18 **Nansiang** (Nên-ziang-tsêng). P. T. R.S., straggling  
market town (5,000 houses). Creek very congested.
- 22 $\frac{1}{2}$  **Ma-lu-chên** (Mo-lo-tsêng), market town on l. (100  
houses).
- 23 $\frac{1}{2}$  **Shih-kang-mên-chên** (Sa-kang-mên-tsêng), market  
town off l. bank (100 houses).
- 25 $\frac{1}{4}$  **KIATINGHSIEN**, P. (see *Gazetteer*), *South Gate*.  
Approached through narrow stone pier bridge, 12 ft.  
waterway. Route turns l.  
Branch r. goes to East and North Gates, and is  
usually navigable only in summer.
- 26 $\frac{1}{4}$  *West Gate*.  
Branch r. goes to North and East Gates.  
Route turns l., through suburb, waterway shallow  
and congested.  
From here creek averaging 30 yds. wide goes WSW.  
to Waikang.
- 30 $\frac{1}{2}$  **Waikang** (or 'Nga-kang), P. Route turns NW.  
(See Route 7 B.)
- 42 **TATSANG**, P., *West Gate*.

## (E) VIA LIUHO KU (50 miles)

The route can be conveniently divided into three sections :

(1) *Shanghai to Woosung Forts* (11 $\frac{1}{2}$  miles)

A full description of this section is given in Route 8. The distance is by the shortest route (Route 8 A).

miles

0

**SHANGHAI.** From the Garden Bridge opposite the **British Consulate.**

11½

**Woosung Forts, R.S.**

(2) *Woosung Forts to Liu-ho-k'ou* (17 miles)

General direction NW. Nearly all the way the route follows the Yangtse Embankment or Sea Wall, the height of which varies from 12 to 18 ft. In places where the embankment skirts the water's edge it is protected by rows of stakes, the farthest rows being covered at high water. For a considerable distance alluvial accretions have separated the embankment from the water, in which cases a smaller dike has usually been built close to the shore. Two main creeks cut through the embankment at Shih-tung-k'ou and at Ch'uan-sha-chên, establishing direct communication between the Yangtse and the inland waterways.

A creek runs parallel with the embankment the whole way, collecting drainage from surrounding country.

The road along the top of the embankment is good at all times for walking, though liable to be heavy and overgrown with grass after a period of rain. In good weather cyclists would only have to dismount twice.

It is said that there is no way along the embankment N. of Liu-ho-k'ou (see Route 10, mile 1).

miles

11½

**Woosung Forts, R.S.** From the railway station the route follows a broad metalled road past the Forts Hotel.

12½

**Nan-shih-t'ang Fort** with a jetty. About 500 yds. beyond the fort the road leads to the Yangtse Embankment, along the top of which the route now lies.

13½

**Paoshan** (Pao-sän-yüen), P., a small district town enclosed by a dilapidated mud wall 15 to 18 ft. high, 3 to 6 ft. thick at top, faced with brick. The town is

miles

sparsely inhabited, with open spaces inside the walls. It is close to the embankment, but separated from it by the creek. At N. end of the town, embankment bends W.

14½ **Nien-chia-chai.**

14¾ **Wan-chia-chai.** Embankment bends NW.

15¾ **Pien-chia-chai.**

16 A camp on l.

16¾ **Hou-chang-chai,** a camp on the l.

17 **Shih-tzŭ-lin** (Ssŭ-tzŭ-lin), fort with village 1 mile beyond. Route descends from embankment, crosses creek, and joins broad macadamized road which runs well to the rear of the fort, where route returns to embankment.

18¾ **Yu-chia-chuang.**

19½ **Shih-tung-k'ou** (Sa-tung-k'ou). A creek from Kia-tinghsien (about 12 miles W.) and 'coastal creeks' coming from opposite directions meet here and form a fair-sized basin, which discharges into the Yangtse through a narrow sluice-gate in the embankment. Stone-slab bridge across gap at same height as embankment. Very strong current, especially at ebb tide. Zigzag approach through rows of stakes, covered at high water. Some fishing junks. The village close by is marked **Tien-êrh-chai** on the map.

20¼ **Lu-chia-chai.**

22½ **Ch'uan-sha-chên,** a village with about a dozen tea-shops and as many other houses. The embankment here is some distance inland, forming main street of village. Road very heavy after rain.

A narrow creek, coming from Kiatinghsien, cuts through embankment and enters Yangtse here. Straight reach of about ¼ to ½ mile (without bridges) between village and river. Some middle-sized junks.

28½ **Liu-ho-k'ou** (Lou-wu-k'ou). For the last mile the embankment turns inland and runs almost parallel

miles

to the last reach of the *Liu Ho* (Lou Wu). It is shady, and has houses scattered along its foot on the S. side.

The mouth of the *Liu Ho* (about  $\frac{3}{4}$  mile from village) is opposite Tsungming, and marked on N. bank by a beacon with a wooden watch-tower among trees close by, and on S. bank by an extensive mound rising some 8 ft. above the marshy ground around it. To the west of mound, and on the same bank, a dike 4 to 8 ft. high, bordered with trees part of the way and with a path along it, leads from the *Liu Ho* to the main Yangtse Embankment. Marshy ground to E., rice fields to W.

The mud at the mouth of the river is quite hard, and there are some patches of shingle beach on N. bank. The Yangtse is shallow for a long way out except where the current from the *Liu Ho* has made a channel; this channel runs fairly straight E. by N. from the mouth of the river. There are no stakes round the bay, but extensive mud-flats at low water. Ebb tide runs up to 5 miles per hour. Junks wait for the turn of the tide just inside the mouth of the river. (See map, p. 544.)

(3) *Liu-ho-k'ou to Taitsang* (21 $\frac{1}{2}$  miles)

General direction W. This is the main water route connecting the sea-coast with Taitsang by the creek known as the *Liu-ho* (or Lou-wu). It is tidal throughout; average force of tide, 3 miles per hour; rise and fall, from 1 to 6 ft. Its average width is 50 yds., and average depth 9 ft. It is a regular steam-launch route S. of Liuho Ku, and is always navigable throughout for vessels up to 6 ft. draught and 16 ft. beam. In practice, however, the passage through the above town is usually almost impossible owing to a block of moored junks. Elsewhere two large boats could pass each other at any point.

The country is flat, well cultivated, and moderately intersected by creeks, and has a well-wooded appearance. Towards the Yangtse creeks diminish in size and number, and for a few miles inland from its south bank the country is passable in all directions for foot and barrow traffic by means of paths. The banks of the creek are usually high enough to prevent any view from boats.

There is an intermittent towpath along the S. bank.

miles

28½

**Liu-ho-k'ou** (Lou-wu-k'ou).

29

**Liu-ho-hsin-chên** (Lou-wu-sing-tsêng), straggling market town on l. (200 houses). This is the first good landing-place. A navigable creek, crossed by a wooden bridge, passes through the town and joins the Liu Ho.

The road along S. bank crosses several tidal ditches by rickety wooden bridges.

31½

**LIUHO KU** (Lou-wu-lao-tsêng), P. T., market town (1,500 houses), on both banks of the river, but houses more numerous on S. bank. The central part of main street is paved with cross-slabs of stone covering a drain; other streets are cobbled.

The river, here about 40 yds. wide, is crossed by two wooden bridges with parapets. The more westerly *Ning-hai Ch'iao* is broader and more substantial but blocked with booths. Large junks only come up to the other bridge (*P'ing-yang Ch'iao*). The trade is mostly with Shanghai.

Above the town there is a weir with four openings and massive stone buttresses with grooves for sluice-gates. The two central openings have wooden bridges, the side openings stone bridges with wooden parapets. Telegraph lines to Shanghai, Tsungming, and Kiangyin.

40

**Liu-tu-ch'iao** (Lu-to-chiao), market town on r. (100 houses). Creek and road go SE. to Kiatinghsien (about 6 miles).

miles

46

**Nan-ma-t'ou** (No-mu-tei), straggling village (100 houses). Wooden bridge.

From here the itinerary is the same as for Route 7 B, mile 39½ onward.

50

**TAITSANG, P.**, *West Gate*.

## ROUTE 8

## SHANGHAI TO WOOSUNG

*Authorities*: F. G. Turner, April, 1905; War Office Map, Shanghai and Neighbourhood, 1908.

From Shanghai Woosung can be most conveniently reached by steamer on the Huang-p'u River, but the following land routes are also available. General direction N.

## (A) ALONG RAILWAY EMBANKMENT (11½ miles)

This is the most direct route and the best for infantry. It is practicable in all weather, though very heavy after rain.

miles

0

**SHANGHAI.** Leaving the Garden Bridge, which spans the Soochow Creek opposite the **British Consulate**, the road follows the left bank of the creek in a westerly direction.

½

**North Honan Road** is reached. Between the Garden Bridge and North Honan Road the Creek is bridged twice, and opposite that road there is a third bridge. These bridges are fit for all arms. Near Kiangse Road also there is a bridge carrying the water main. This could easily be destroyed at this point and the water-supply of the northern part of Shanghai thus cut off.

The road is of the usual town type, metalled, and 8 to 10 yds. wide.



miles

Route turns N. across Soochow Creek and continues along North Honan Road.

1½ Level crossing of railway some 300 yds. E. of **Shanghai Railway Station**.

From the level crossing, which is protected by wooden gates, the railway might be followed, but the better plan is to take the continuation of North Honan Road, known as **Paoshan Road** (or Old Railway Road), past the Mount Pleasure Hotel.

2¼ Road again strikes the railway, after crossing a creek by a wooden pile bridge, 60 ft. long, consisting of 5 spans ; centre span about 18 ft. wide with 10-ft. headway. Roadway of wood 10 ft. wide. The creek is navigable for small boats.

From here the route follows the railway to Woosung. The metalled road crosses the line and goes off to E. The main path to Kiangwan turns to l. (see Route 8 C).

4¾ **Kiangwan, P. T. RS.** Before reaching the railway station two creeks are crossed on bridges of 20- to 30-ft. spans. Infantry and cavalry would have no difficulty in crossing the bridges, but some preparations would be required for the passage of guns.

The station is about 600 yds. to SE. of the village.

Shortly after leaving Kiangwan Station the line crosses another creek by a similar bridge. The railway embankment provides on either side a pathway clear of ballast (3½ to 4 ft. wide on W. side ; 2 to 2½ ft. wide on E. side), so that cavalry could easily advance two abreast.

The country on both sides of the line is low-lying and waterlogged, and at few places only is it possible to leave the railway bank without fording the borrow-pits which run alongside the embankment and are full of water.

8½ The line crosses another creek by a steel-girder bridge about 60 ft. long. There is a footway on the

miles

E. side, and all arms can cross the bridge without any preparation.

9½

**WOOSUNG**, P. T. RS. A quarter of a mile before reaching Woosung Station the line approaches the river embankment and the shortest route leaves the railway and follows the river embankment, passing the *Woosung Hotel* close to the station, as far as *Woosung Creek*. The embankment is about 20 ft. wide at the top, but is much cut up.

On reaching the Creek it is necessary to leave the embankment and follow a path for about 100 yds. to the bridge, a stout structure on piles fit for all arms.

11½

**Woosung Forts**, RS. From the bridge to Woosung Forts Railway Station there is a broad metalled road practically following the river bank. This road continues past the Forts Hotel to the rear of **Nan-shih-t'ang Fort**.

The route along the railway between Woosung and Woosung Forts is easier but about ½ mile longer.

#### (B) ALONG RIVER BUND (15½ miles)

This alternative route along the River Bund (embankment) is most suitable for cavalry, and the only route by which field artillery could go to Woosung in the wet season.

miles

0

**SHANGHAI**. Leaving the Garden Bridge, opposite the **British Consulate**, the route follows the Broadway and Yangtszepoo Road in a general easterly direction. There are houses on both sides and the road is of the usual town type.

3

*Yangtszepoo Bridge*, a steel structure suitable for all arms. The road turns NE., and houses become fewer especially on the W. side. On the E. side are numerous mills and factories filling the space between the river and the road.

miles

Route continues in a general NE. direction past the New Point Hotel. Houses less numerous, but road still metalled and lined with trees on either side.

6

**China Flour-mill Company's** premises, with a strong jetty. Turning N. road passes between the flour-mills and runs along the river's edge for a short distance. Here the *River Embankment* is met and followed all the way to Woosung, except at mile  $7\frac{1}{2}$ , where a short deviation is necessary. The width of the embankment at the top varies considerably; generally it is more than 8 ft. and not infrequently reaches 15 ft. The side slopes are about 1 in 1 to 1 in 2, and the whole bank is covered with coarse grass and reeds. Along the middle of it there is a path about 18 ins. wide which is clear of vegetation. Throughout the greater part of its length there is a wet ditch on the W. or land side, some 10 to 15 ft. wide and 2 to 5 ft. deep with steep banks. This is crossed by a considerable number of stone and wooden bridges, but few of the latter will carry a horse. The vegetation would be no obstacle to the march of troops. In many places troops could march along the foot of the bank on one side or the other, thus obtaining cover from view or fire. The bank is some 8 to 10 ft. above the level of the surrounding country. At short intervals it is crossed by footpaths, and in such places the level has generally been reduced by 2 ft. or more.

 $6\frac{1}{2}$ 

Junk yard on the river's edge. The embankment leaves the river, which here bends away to E.

 $7\frac{1}{2}$ 

The embankment is pierced by a creek which has not been bridged. A bridge 60 to 70 ft. long would be necessary. A path here leaves the embankment and, crossing the ditch on a rickety wooden bridge, just strong enough for a pony, runs inland about 100 yds. to a bridge over the above-mentioned creek. This bridge is in very bad repair and will only carry

miles

- foot-passengers. It is of piles with wooden roadway, about 45 ft. from end to end. The creek here is about 30 ft. wide with steep sides, and varies in depth from 3 to 6 or 7 ft. according to the tide. Beyond the bridge the path turns sharply back to the embankment. If the creek were properly bridged, field artillery would have little difficulty in using this route.
- 10 The embankment again approaches the river's edge.
- 13 *Woosung Hotel*. From here the itinerary is identical with that of Route 8 A, mile  $9\frac{1}{4}$  onward.
- 15 $\frac{1}{4}$  **Woosung Forts, R.S.**

## (C) ALONG INLAND PATHWAYS (12 miles)

In dry weather the pathways via Kiangwan are excellent both for men and horses, though progress would only be possible in single file. In wet weather they are heavy and slippery.

Numerous stone-slab bridges are met with, and unless the animals are accustomed to crossing them considerable delay and difficulty will be experienced. The local ponies are generally well trained in this respect.

The country traversed is typical of the Yangtse delta: flat, well irrigated, and highly cultivated. Numerous small villages and farms are dotted about, their position being generally marked by bamboo clumps and other trees.

Narrow paths, from 18 in. to 4 ft. wide, of which the more important are paved, traverse the fields in every direction. The fields themselves are usually practicable for infantry and cavalry, though in the wet season they are very heavy and horses would find it extremely difficult to move across country.

The principal obstacles to the movement of troops are the numerous irrigation channels, from 10 to 30 or 40 ft. wide, which cut up the country in all directions. These, though mostly fordable at low water, have very soft bottoms and would give trouble. The large ones are unfordable. Bridges are numerous but very rickety and unsafe for horses.

miles

- 0     **SHANGHAI.** Route leaves Garden Bridge, opposite the **British Consulate**, and for  $2\frac{1}{4}$  miles is identical with Route 8 A.
- $2\frac{1}{4}$     At the point where the metalled road crosses the railway a clearly marked path leads in a NNW. direction. For the greater part of its length the path is paved for barrows but unfit for ordinary wheeled traffic. The pavement is much worn and is about 1 to  $1\frac{1}{2}$  ft. wide, the path being altogether some 4 or 5 ft. wide.
- $3\frac{1}{4}$     The creek, which up to this point has skirted l. side of path, now turns away to W.
- 4     **Ying-chia-chai.** Path crosses wide creek.
- $5\frac{1}{4}$     **Kiangwan, P. T. RS.** Route enters SW. corner of town.
- $5\frac{3}{4}$     Route leaves NE. corner of town. Various paths available. General direction N.
- $10\frac{1}{4}$    **WOOSUNG, P. T. RS.** Before entering the town route crosses a wide creek (*Woosung Creek*).
- 12     **Woosung Forts, RS.**

## ROUTE 9

### SHANGHAI TO CHANGSHU KU

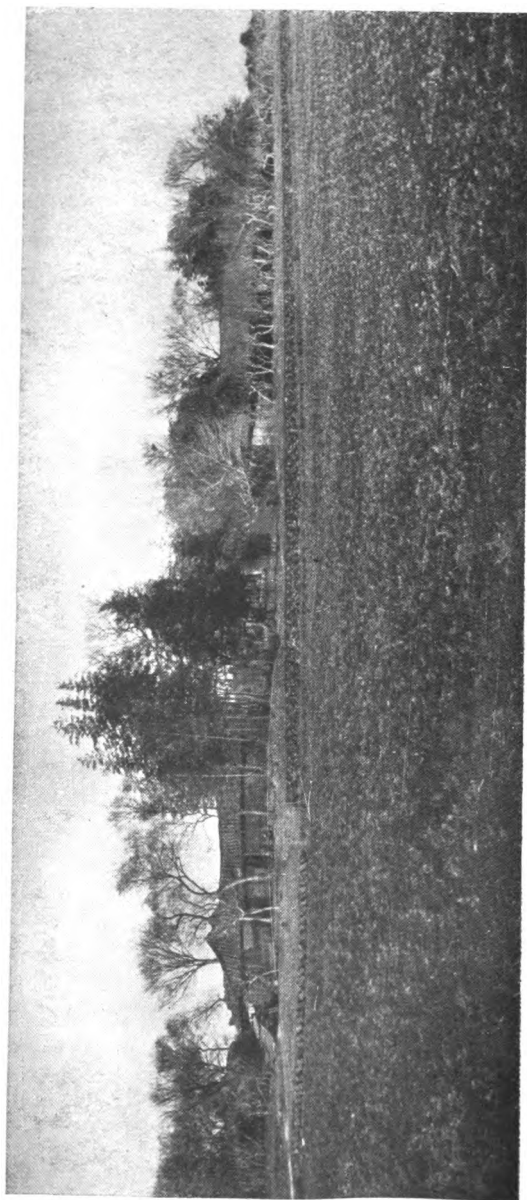
*Authority:* A. H. Hilton-Johnson, Nov.-Dec. 1906.

General direction NW. There are two main water routes :

#### (A) VIA TAITSANG

As far as Taitsang the route is identical with Route 7, which has five variants. The distance varies accordingly : by Route 7 A,  $85\frac{1}{4}$  miles ; Route 7 B,  $74\frac{3}{4}$  miles ; Route 7 C,  $78\frac{1}{4}$  miles ; Route 7 D,  $73\frac{1}{4}$  miles ; Route 7 E,  $81\frac{1}{4}$  miles. The first of these routes has been followed in the itinerary given below.





**SOUTH KIANGSU: TYPICAL VILLAGE**

Beyond Taitsang the creek is non-tidal, but has a sluggish current flowing SE. Its average width is 40 yds., and average depth 10 ft. Both width and depth vary considerably.

It is a regular steam-launch route, and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other practically anywhere.

The country generally is flat and well cultivated, has a moderately wooded appearance, and is much intersected by creeks. Much of it is swampy and impassable. The banks as a rule are sufficiently high to obstruct the view from boats.

There are almost unbroken towpaths for 12 miles beyond Hêng-ching-chuang-chan, and for 4 miles S. of Ching-hsing-ch'iao. Elsewhere no continuous lengths exist.

miles

- |     |   |
|-----|---|
| 0   | <b>SHANGHAI</b> , P. T. RS. (see <i>Gazetteer</i> ). From the mouth of the <i>Soochow Creek</i> .<br>For details to mile 54 see Route 7 A.                                  |
| 54  | <b>TAITSANG</b> , P. West Gate.   |
| 54½ | Route leaves from North Gate (in NW. wall).   |
| 57½ | <b>Hsü-chia-wan</b> (Zi-ka-vang), 50 houses, on l. Prominent temple on r.   |
| 58½ | <b>P'ao-shu-tun</b> (P'ao-su-tên), mound 40 ft. high, 200 yds. from l. bank, giving good view of country from top.  |
| 59½ | <b>Hêng-ching-chuang-chan</b> (Wang-ch'ing-tsang-tsan), 30 houses, on r.<br>Creek to E. goes to Yang-lin, 5 miles.  |
| 60½ | <b>Shwangfeng</b> (Shang-vêng-tsêng), P., market town (500 houses), mostly lying along small creek going W.   |
| 62½ | <b>Fêng-ch'ing-ch'iao</b> (or Lin-chia-ch'iao), bridge, two temples, hamlet, 500 yds. NNE. route turns W.<br>A branch creek to NE. goes to Sha-ch'i-chên (So-tei), 3 miles. |
| 63  | <b>Chetang</b> (Chih-tang-tsêng), P., market town (2,500 houses). A creek goes NE. to the Yangtse.  |
| 65½ | <b>Wang-tang-miao</b> , conspicuous temple on r.<br>Beyond here Kunshan Hill is often visible.  |
| 66½ | <b>Jên-yang-shih</b> (Ning-yang-ssü), 100 houses,   |



miles

- 68½ **Shan-ching** (San-ching or Siao-sa-pa), 30 houses.
- 70 **Shihpai** (Sa-pa), P., market town (700 houses).  
Here route turns SW.
- 71¾ **Hsin-ts'un** (Sing-ts'êng), 100 houses.
- 73½ **Hsia-yeh**, small island used as a graveyard at junction of four large creeks, with temple on NW. bank. This is a widely known landmark. No village. Route continues W.
- Creek to S. goes to Kunshan (see Route 9 B); creek to N. goes to Changshu Ku via Tungtangshih—see Route 9 C.
- 74¾ **Nan-huang-ching** (No-wang-ch'ing), village (300 houses), lying both E. and N. of creek junction. Here route turns N.
- 79 **Patzekiao** (Pu-tzū-chiao), P. (600 houses), lying along creek going E., with bridge.
- 79½ **Hengking** (Wang-ch'ing), P. (1,000 houses), bordering banks for 1 mile.
- 80¾ **Ching-hsing-ch'iao** (Ch'i-sing-chiao), broken stone bridge and a widely known landmark. Route continues NW.
- 82 **Ni-chia-hsiang** (Ssü-ka-hang), 150 houses, on creek off r. bank.
- 83½ Mouth of *K'un-ch'êng Hu* (K'un-zêng Wu, lake).
- 84¾ **CHANGSHU KU**, P. T. (see *Gazetteer*). S. suburb begins here.
- 85½ SE. corner of city. Thence W. to South and West Gates, E. to North and East Gates.

## (B) VIA KUNSHAN (73 miles)

As far as Kunshan the route is identical with Route 5 B. Beyond Kunshan it is the main water route to Changshu Ku. At Hsia-yeh it rejoins Route 9 A.

The creek beyond Kunshan is non-tidal, but has a sluggish current flowing SE. Its average depth is 10 ft., and average width 40 yds. Both width and depth vary considerably.

It is a regular steam-launch route, and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other almost anywhere.

The country generally is flat, well cultivated, has a moderately wooded appearance, and is much intersected by creeks. Much of it is swampy and impassable. The banks as a rule are high enough to obstruct the view from boats.

There is an unbroken towpath to Pacheng, elsewhere towpaths are intermittent or non-existent.

miles

0	<b>SHANGHAI.</b> From the mouth of the <i>Soochow Creek</i> . For details to mile 48 see Route 5 B.
48	<b>KUNSHAN,</b> P. T. RS. <i>East Gate</i> .
49	Route leaves from NW. corner, which point is best reached by creek along N. wall. Direction N.
50	Route turns W. into another creek passing under a bridge. After $\frac{1}{2}$ mile creek winds NW.
53 $\frac{1}{2}$	Route branches N.
55 $\frac{1}{2}$	Temple on r. Route turns W.
57 $\frac{1}{4}$	Route turns N.
57 $\frac{3}{4}$	<b>Pacheng</b> (P'u-tsang), P. Market town (200 houses).
58 $\frac{1}{4}$	<i>Pacheng Lake</i> (P'u-tsang Wu) entered. Course bears 335° magnetic to mouth of creek about 1,000 yds. distant.
60 $\frac{1}{2}$	Village, 300 houses.
61 $\frac{1}{4}$	<i>Hsia-yeh</i> . From here see Route 9 A, mile 73 $\frac{1}{2}$ .
73	<b>CHANGSHU KU,</b> P. T.

### (C) VIA TUNGTANGSHIH (74 $\frac{1}{2}$ miles)

This provides an alternative route between Hsia-yeh and Ching-hsing-ch'iao. It is very constricted at Tungtangshih and is about 1 $\frac{1}{2}$  miles longer than the main route, but the creek is a good one and always navigable for vessels up to 4 $\frac{1}{2}$  ft. draught and 14 ft. beam.

As far as Hsia-yeh either Route 9 A or Route 9 B can be followed.

miles

- 0      **SHANGHAI.** From the mouth of the *Soochow Creek*.  
For details see Route 9 B.
- 61½    *Hsia-yeh.*  
By Route 9 A the mileage would be 73½.  
Route turns N.
- 64      **Tungtangshih** (Tang-tzū), P. Market town, 700  
houses.
- 65¾    Route continues N. through bridge and enters  
narrow creek.  
Branch goes E. to Chetang and is said to be navigable for small boats only, owing to low bridges.
- 67¼    Route turns W.
- 69½    **Ch'i-lang**, village on l. (100 houses).  
*Ching-hsing-ch'iao* (Ch'i-sing-chiao).  
From here see Route 9 A, mile 80¾.
- 74½    **CHANGSHU KU**, P. T. Route enters SE. corner.  
By Route 9 A the mileage would be 86¾.

## ROUTE 10

## FUSHAN TO CHANGSHU KU (11 miles)

*Authority* : A. H. Hilton-Johnson, Nov. 1906.

General direction S. This is the only direct water route connecting Changshu Ku with the Yangtse. The creek is known as the Fushan Kang (Chiang) or T'ang. It is tidal throughout; average force of tide 2 miles per hour, average rise and fall 2 ft. It has a uniform width of 12 yds., average depth 7 ft. It is not a regular steam-launch route, but (so far as can be ascertained) is always navigable for vessels up to 3½ ft. draught and 16 ft. beam. Many sharp bends would limit the length of tow. S. of Fu-shan-so there are few points at which large boats could pass each other. The country generally is flat and well cultivated, has a moderately

wooded appearance, and is dry and passable, with very few creeks. The banks are 10-40 ft. high, thickly wooded for the last 5 miles, and no view from boats is obtainable. There is a continuous towpath throughout, passable for animals and wheelbarrows, of which, however, very few are available, since neither are used to any extent. A telegraph line from Fushan to Changshu Ku follows the course of the creek.

miles

- |    |  |
|----|--|
| 0  | Mouth of creek in <i>Yangtse River</i> is narrow and shallow. About 50 large river and creek junks are always available. About 1 mile to the W. are the hills <i>Mao-chia Shan</i> (Mo-ka Sän) and <i>Tien Shan</i> , formerly the site of batteries now dismantled. These hills command the town and creek as far as Hsiao-chia-ch'iao, and are well situated to cover a landing in this neighbourhood. |
|    | <b>Fushan</b> (Fu-sän), P. T., a market town (800 houses) bordering creek for 1 mile.  |
| 1  | Creek leaves the town through old sea-wall, an earth bank extending roughly from Kiangyin to Shanghai. Except between Shanghai and Liu-ho (Route 7 E, sect. 2), it is useless as a road owing to unbridged gaps at many creeks.  |
| 1½ | <i>Fu-shan-so</i> consists of an earth bank about 10 ft. high and 2 ft. thick fronting on r. bank for about ½ mile, at the S. end of which is a mud and masonry wall about 100 yds. square, 8 ft. high, and 1½ ft. thick, enclosing barracks occupied by 1,000 infantry.   |
| 1¾ | <b>Nan-mên</b> (No-mên), 50 houses, southern suburb of Fushan.   |
| 3¼ | <b>Hsiao-chia-ch'iao</b> (Siao-ka-chiao), 100 houses with bridge.  |
| 4½ | <b>Chên-chia-ch'iao</b> (Chêng-ka-chiao), 100 houses with bridge.  |
| 6  | <b>Siehkiakiao</b> (Sia-ka-chiao-tsêng), 200 houses with bridge.   |

miles	
7	<b>Hsin-ch'iao</b> (Sing-chiao), bridge and hamlet (20 houses).
8	<b>Mao-chia-ch'iao</b> (Mo-ka-chiao), bridge and hamlet (20 houses).
10	<b>Li-chia-ch'iao</b> , bridge and hamlet.
10½	<b>CHANGSHU KU</b> , P. T. (see <i>Gazetteer</i> ). Northern suburb begins here.
	<i>Niu-t'ou</i> (Niu-tei) <i>Shan</i> (hill range) on r.
11	North Gate. It is in water communication with other gates via E. wall only.

## ROUTE 11

## CHANGSHU KU TO SOOCHOW (22½ miles)

*Authority*: A. H. Hilton-Johnson, Dec. 1906.

General direction SSW. This is the main water route. It is non-tidal, but has a sluggish current flowing S. Its average width is 40 yds., and average depth 12 ft..

It is a regular steam-launch route and is always navigable for vessels up to 6 ft. draught and 16 ft. beam. Large boats could pass each other practically anywhere.

The country generally is flat and well cultivated, has a moderately wooded appearance, and is much intersected by creeks. Towards Changshu Ku it becomes swampy and impassable.

The banks are low and permit good view from boats.

For the last 6 miles there is a continuous towpath, passable for animals and wheelbarrows; elsewhere it is very intermittent and often disappears.

miles	
0	<b>CHANGSHU KU</b> , P. T. (see <i>Gazetteer</i> ). Route leaves from the <i>South Gate</i> and passes through the S. suburb. Waterway very narrow and congested.
½	Suburb ends.

miles	
2 $\frac{1}{4}$	<b>Yao-chia-tien</b> (Yo-ka-tieh), village on r. (200 houses).
3 $\frac{3}{4}$	Brick kilns on r.
5	<i>Hua-tang</i> (local name Wu-tang), lake or reed swamp. Creek opens out into E. end of it for 1 mile.
6	Route to Wusih branches off to NW. (see Route 12 A).
9	Route leaves the lake.
10 $\frac{1}{4}$	<i>Li-wang-miao</i> , conspicuous temple on r.
13 $\frac{1}{2}$	<b>Wu-t'a-shih</b> ('Ng-t'a-ssü), market town (200 houses), chiefly on l.
	<i>Yao-shan-ching</i> , prominent temple on r.
	Creek going E. is regular steam-launch route to Tangkow.
16	<b>Ma-chia-t'ai</b> (Mo-ka-tei), village on r. (300 houses).
18	<b>Likow Ku</b> , P., market town (2,000 houses).
19 $\frac{3}{4}$	<b>Lumu</b> (Lo-'m-tsêng), P., market town bordering creek for 1 $\frac{1}{4}$ miles. 6,000 (?) houses.
21 $\frac{1}{2}$	<b>SOOCHOW</b> , P. T. RS. (see <i>Gazetteer</i> ). N. suburb begins.
22 $\frac{1}{2}$	Route ends at the <i>Ch'i Mên</i> (Zi Mên), the only gate in N. wall.

## ROUTE 12

## CHANGSHU KU TO WUSIH

*Authority*: A. H. Hilton-Johnson, Dec. 1906.

General direction, WSW. There are alternative routes:

(A) VIA HUANG-NI-TAI (27 miles)

This is the direct water route via the Hua-tang and Yüan-shan-tang (lakes).

For the last 21 miles distances had necessarily to be estimated, and are liable to be considerably in error.

The creek is non-tidal, but has a sluggish current flowing E. Its width averages 25 yds., but varies largely. Its average depth is 7 ft.

It is not a regular steam-launch route, but is always navigable for vessels up to 3½ ft. draught and 12 ft. beam, the latter being limited by bridges. Headroom under lowest stone-slab bridge (Miao-ch'iao) is only 9 ft. in winter and 6½ ft. in summer, but with a hundred men and tackle the tops of this and other similar bridges are easily removable. Boats could pass each other practically anywhere except between the Hua-tang and Ling-tang (lakes), where the creek narrows to under 10 yds.

The country generally is flat, largely under mulberry cultivation, with a well-wooded appearance, and dry. It is usually impassable owing to the very large number of creeks intersecting it.

Except for 2 miles before Shih-tai-ch'iao, the banks are low, but the view is much restricted by trees.

Towpaths are intermittent for the first 6 miles, then entirely absent.

miles

- |    |  |
|----|--|
| 0  | <b>CHANGSHU KU</b> , P. T. (see <i>Gazetteer</i> ). Route leaves from the South Gate.  |
|    | For the first 5 miles it is identical with Route 11.   |
| 5  | <i>Hua-tang</i> (Wu-tang). In this lake the routes divide: the route to Soochow continuing SW., whilst the present route turns NW. and crosses the whole length of the lake. |
| 8½ | <b>Shên-ta-ch'iao</b> (Sêng-ta-chiao), village (40 houses) at N. end of the lake. Route leaves the lake and passes under a bridge.   |
| 8¾ | <i>Chou-yi-chuang</i> , a large memorial hall, on r. Here route turns SW.  |
| 9  | <b>Miao-ch'iao</b> (20 houses), with bridge.<br>Route enters <i>Ling-tang</i> (lake) at NE. corner and crosses it to the S.  |
| 10 | Route leaves <i>Ling-tang</i> .  |

miles	
13	<i>Yüan-shan-tang</i> (lake). Yüan Shan (hill) on r.
14 $\frac{3}{4}$	<b>T'ai-p'ing-ch'iao</b> (30 houses), on r., with bridge.
15 $\frac{1}{4}$	<b>Chung-an-ch'iao</b> (30 houses), on r., with bridge.
15 $\frac{3}{4}$	<b>Hsi-an-ch'iao</b> (20 houses), on r., with bridge.
17 $\frac{1}{4}$	<b>Chiu-li-ch'iao</b> , wooden bridge, hamlet on r.
18	<b>Shih-tai-ch'iao</b> (Sa-tai-chiao), 100 houses, with bridge.
19 $\frac{3}{4}$	<b>Ya-ch'êng-ch'iao</b> (50 houses), on r., with bridge.
21 $\frac{1}{4}$	Alternative route branches off to S. (see Route 12 B).
24 $\frac{3}{4}$	<b>Huang-ni-tai</b> (Wang-ni-tei), 100 houses.
26 $\frac{1}{2}$	Railway bridge (Shanghai-Nanking line) in N. suburb of Wusih.
27	<b>WUSIH</b> , P. T. RS. (see <i>Gazetteer</i> ). Route enters by the Ssü-pao-ch'iao (bridge) near the North Gate.

## (B) VIA TUNGTING (about 29 miles)

This is an alternative water route between Ya-ch'êng-ch'iao and Wusih. It is said to be navigable only for low-built boats on account of bridges. It leaves the main route 1 $\frac{1}{2}$  mile W. of Ya-ch'êng-ch'iao and joins the Grand Canal about 1 mile from South Gate of Wusih.

miles	
0	<b>CHANGSHU KU</b> , P. T. For details to mile 19 $\frac{3}{4}$ see Route 12 A.
19 $\frac{3}{4}$	<b>Ya-ch'êng-ch'iao</b> , bridge, village on r. (50 houses).
21 $\frac{1}{4}$	Route turns S.
22 $\frac{1}{4}$	<b>Tungting</b> , P.
24 $\frac{1}{2}$	<b>Hung-ch'i-shih</b> .
25 $\frac{1}{4}$	Route turns W.
27 (?)	Railway bridge (Shanghai-Nanking line).
28	Route enters Grand Canal.
29	<b>WUSIH</b> , P. T. RS. South Gate.



## ROUTE 13

## CHANGSHU KU TO KIANGYIN (40 miles)

*Authority*: A. H. Hilton-Johnson, Dec. 1906.

General direction, NW. This is the main water route, via Wang-chuang-shih and Yün-t'ing-ch'iao. It is tidal from Changking to Kiangyin. Average force of tide 2 miles per hour; average rise and fall  $1\frac{1}{2}$  ft. Its width varies from 5 yds. to 140 yds., average depth 9 ft. It is not a regular steam-launch route, but is always navigable for vessels up to  $4\frac{1}{2}$  ft. draught and 14 ft. beam (this last being limited only by a defile which occurs at Changking). Large boats could pass each other practically anywhere.

The country generally is flat and well cultivated, and has a moderately wooded appearance. Much of it is swampy and impassable. It is very thickly intersected by creeks, especially E. of Wang-chuang-shih. Banks 20 ft. high often obstruct the view from boats. Towpaths are very intermittent, and often disappear for many miles. From Lukia-kiao northwards the route is always commanded by hills.

miles

- |     |  |
|-----|--|
| 0   | <b>CHANGSHU KU</b> , P. T. Route leaves <i>West Gate</i> and for 3 miles lies through straggling W. suburb. Hill range <i>Niu-t'ou Shan</i> (700 or 800 ft. above the plain) on r. |
| 3½  | <i>Shang Hu</i> (Zang Wu). Route enters lake on l. Mouth of creek on far side imperceptible and bears 275° magnetic.   |
| 5¼  | Creek opens out into lake. Mouth of creek on far side bears 310° magnetic.   |
| 13¼ | <b>Wang-chuang-shih</b> (Wang-tsang-ssü), market town 400 houses).   |
| 15½ | <b>Chiang-hsia-ch'iao</b> (Kang-wu-chiao). Bridge, village on l. (100 houses).   |

miles	
17 $\frac{3}{4}$	<b>Chenchusze</b> (Chêng-tzŭ-tsêng), P., market town (200 houses).
21	<b>Changking</b> (Chang-ch'ing-tsêng), P., market town (500 houses).
24	<b>Chang-chia-yi</b> , village on r. (100 houses).
25 $\frac{1}{4}$	<b>Lukiakiao</b> (Lo-ka-chiao), P. Bridge, village (100 houses).
27 $\frac{3}{4}$	<b>Hu-tai-ch'iao</b> (Wu-ta-chiao). Bridge, village (150 houses).
29 $\frac{1}{2}$	<b>Yang-chia-ch'iao</b> . Bridge, village on r. (100 houses).
30 $\frac{1}{2}$	<b>Mao-shu-ch'iao</b> (Mai-tzŭ-chiao). Bridge, village (50 houses).
31 $\frac{1}{4}$	<b>Huang-ts'un-ch'iao</b> (Wang-ts'êng-chiao). Bridge, hamlet on l.
32 $\frac{1}{2}$	<b>Ting-shan-ch'iao</b> . Bridge, hamlet on r.
34	<b>Yün-t'ing-ch'iao</b> . Bridge, village (200 houses).
35 $\frac{3}{4}$	<b>Lu-t'ou-ch'iao</b> . Bridge.
36	Roman Catholic Mission Church at foot of hill on r.
36 $\frac{3}{4}$	<b>Ch'i-shan-ch'iao</b> . Bridge.
38 $\frac{1}{2}$	<b>P'u-lu-ch'iao</b> . Bridge, hamlet.
39 $\frac{1}{4}$	<b>Pankiao Ku</b> , P. Bridge, straggling village (200 houses).
39 $\frac{1}{2}$	Route joins creek from Wusih to Kiangyin (see Route 14, mile 22 $\frac{1}{2}$ ).
40	<b>KIANGYIN</b> , P. T. (see <i>Gazetteer</i> ). Half mile from South Gate. Thence creek branches—(a) W. to West and North Gates and Yangtse River, and is always navigable; (b) N. to East Gate, and is navigable for small boats only, except at spring tides.

## ROUTE 14

## WUSIH TO KIANGYIN (23 miles)

*Authority:* A. H. Hilton-Johnson, Dec. 1906.

General direction N. This is the main water route by the Grand Canal to Kao-ch'iao (bridge), thence via Tsingyang. It is tidal beyond Tsingyang: average force of tide 2 miles per hour, average rise and fall  $1\frac{1}{2}$  ft. Its average width is 20 yds., and average depth 9 ft. It is a regular steam-launch route, and is always navigable for vessels up to  $4\frac{1}{2}$  ft. draught and 16 ft. beam. Large boats could pass each other almost anywhere.

The country generally is flat, well cultivated, and has a moderately wooded appearance. For the first 17 miles much of it is swampy and impassable. To Tsingyang the banks are low and a good view from boats is obtainable. Thence they rise and from Nan-tsê-chên are 40 ft. to 80 ft. high. There is a continuous towpath for the first 3 miles, then it is practically non-existent for 6 miles, and then again continuous to Kiangyin, with one break at San-ho-k'ou. Beyond Nan-tsê-chên it is passable for men only, elsewhere for animals and wheelbarrows.

miles

- |                 |  |
|-----------------|--|
| 0               | <b>WUSIH</b> , P. T. RS. (see <i>Gazetteer</i> ). Route leaves from <i>North Gate</i> , and for 1 mile lies through northern suburb; waterway very congested.      |
| 3 $\frac{1}{4}$ | <i>Kao-ch'iao</i> , high single-arch stone bridge on r. Route leaves Grand Canal and turns N.<br>The Shanghai-Nanking Ry. crosses the creek in this neighbourhood. |
| 4 $\frac{1}{4}$ | <i>Pai-t'ang-yü</i> . Creek opens into shallow lake; channel follows l. side, and care is required in winter navigation.   |
| 10              | <b>Shihchwang Ku</b> (Sa-tsang), P., market town on l. (100 houses).   |

miles

11 $\frac{1}{4}$  **Shih-tao-ch'iao** (Sa-tao-chiao). Bridge, village on l. (50 houses).

Just S. of here branch goes W. to Changchow Ku (Route 15), and is an alternative route to San-ho-k'ou, 7 miles N.

12 **Hsiao-ch'ing-yang**, village (300 houses).

13 **Tsingyang** (Ch'ing-yang-tsêng), P., market town bordering creek for  $\frac{3}{4}$  mile (2,000 houses).

17 **Yuehchengkiao** (Yüeh-tsêng-chiao), P., market town (300 houses).

18 $\frac{1}{4}$  **San-ho-k'ou** (Sän-wu-k'ei), village on l. (50 houses). Route turns r.

Branch l. goes to Changchow Ku (see Route 15, mile 19).

19 $\frac{3}{4}$  **Nan-tsê-chên** (No-za-tsêng), market town (300 houses).

22 $\frac{1}{2}$  Creek from Changshu Ku joins in on r. (see Route 13, mile 39 $\frac{1}{2}$ ).

23 **KIANGYIN**, P. T. (see *Gazetteer*). Half mile from South Gate. From here creek branches W. to North and West Gates and Yangtse River, and is always navigable; the waterway N. to East Gate is navigable for small boats only.

## ROUTE 15

### CHANGCHOW KU TO KIANGYIN (24 miles)

*Authority*: A. H. Hilton-Johnson, Jan. 1907.

General direction NE. This is the main water route, via Ch'ên-tu-ch'iao and Nan-tsê-chên. It is tidal towards Kiangyin: average force of tide, 1 $\frac{1}{2}$  miles per hour. Average rise and fall, 1 ft. There is also a sluggish current flowing NE. Its average width is 25 yds. and average depth 8 ft. It is not a regular steam-launch route, but is always navigable for

vessels up to 4½ ft. draught and 16 ft. beam. Large boats could pass each other practically anywhere.

The country generally is flat and well cultivated, and has a well-wooded appearance. Much of it is swampy and impassable. To Shihyen the banks are low, thence they are high and obstruct view from boats. There is a continuous tow-path passable for animals and wheelbarrows for the first 15 miles; thence it is broken by creeks for 1 mile, and again continuous. From Nan-tsê-chên it is passable for men only. The hills near Shihyen command the creek, and are well situated to oppose an advance.

miles

- |     |   |
|-----|---|
| 0   | <b>CHANGCHOW KU</b> , P. T. RS., important city on the <i>Grand Canal</i> (see <i>Gazetteer</i> ).<br>Route leaves from North Gate.   |
| 1½  | <b>Shên-chia-ts'un</b> (Sên-ka-ts'êng), village on l. (50 houses).  |
| 4¾  | <b>Yang-tu-ch'iao</b> . Bridge, village on l. (100 houses).   |
| 6¾  | <b>Chang-chia-ts'un</b> (Chang-ka-ts'ên), village on l. (20 houses).  |
| 7½  | <b>Shih-t'ou</b> (Sa-tei), village (20 houses).   |
| 8½  | <b>Ch'ên-tu-ch'iao</b> , market town (500 houses).  |
| 9   | <b>Pai-yang-ch'iao</b> (Pa-yang-chiao). Bridge, village (50 houses).  |
| 10½ | <b>Hei-t'ang-ch'iao</b> . Bridge, village on l. (20 houses).  |
| 11½ | <b>San-ho-k'ou</b> (Sän-wu-k'ei), market town (500 houses), not to be confused with village of same name at mile 19. Here route turns SE. from E. end.  |
| 13  | <b>T'ou-yü-ti</b> , village on r., 50 houses and Roman Catholic Church.   |
| 13¾ | <b>Shihyen</b> (Sa-yen-ssü), P., market town (200 houses).<br>From N. end a good creek starts. It is said to be always navigable for boats up to 3 ft. draught. It goes SW. to Chishuyen on Grand Canal, 17 miles NW. of Wusih. |
| 14¾ | <b>Hui-chi-ch'iao</b> (Wai-chi-chiao). Bridge, village on r. (50 houses).   |

miles

- From here a good creek, average width 15 yds., goes S. to Wusih via Shih-tao-ch'iao (see Route 14).
- 15½ **Chang-kung-ch'iao** (Tsang-kung-chiao). Bridge, village (20 houses).
- 17½ **Shao-hsiang-ch'iao**. Bridge, village on l. (50 houses).
- 19 **San-ho-k'ou** (Sän-wu-k'ei), village on l. (50 houses).  
Route continues N.; branch S. goes to Wusih.
- 23¾ From this point the route is identical with Route 14.  
**KIANGYIN**, P. T. (see *Gazetteer*). Route ends in S. suburb.

## ROUTE 16

LOSHE (ON GRAND CANAL) TO WUHU (ANHWEI)  
(about 143½ miles)

*Authorities*: G. E. Pereira, Dec. 1907; War Office MS. map of South Kiangsu, Sept. 1909.

The general direction is from E. to W. Loshe is on the Grand Canal 8½ miles NW. of Wusih (see Route 1 A, sect. 3). This is the most direct, but not the main route, which would be up the Grand Canal by steam-launch to Chinkiang and by steamer to Wuhu, or else by train via Chinkiang to Nanking, and thence by steamer. It leaves the Grand Canal ½ mile N. of Loshe<sup>1</sup> and follows up the Loshe River to the Hsi-t'ai Hu (Si-t'a Wu), a lake marked Kê Hu on maps. It then follows S. down the Pin-yün River to Ihing, where it again turns W. across two lakes and up the Wên-ting River to Liyanghsien, whence it goes up the Tung-pa River to the Lower Barrier. The 3 miles from here to the Upper Barrier can be done by small boats on the canal, or by land with wheelbarrows. Boats are again taken from the Upper Barrier up the Ku-cheng River to Kucheng Ku, across the Hsiao-nan Hu (marked

<sup>1</sup> According to War Office map the entrance to the main creek is at Wu-ma about 3 miles NW. of Loshe.

Kucheng Hu on maps) to Kaoshun, down the Kaoshun River to Hsiao-hua-liu-chia-ts'un, where it joins the Sha Ho (Sa Ho). This river is then ascended in a southerly direction to Hsi-tou-mên, whence it goes westerly down the Kuei-hsi River to Wuhu.

Distances were measured at first by perambulator, and afterwards by time. The greater part was done by walking, but owing to constant changes from land to boat the distances given by this route are only fairly accurate.

Rivers are non-tidal. The currents are not strong, but the direction of the flow is somewhat complicated. Starting from the hills behind Ningkwofu in SE. Anhwei, the rivers flow northerly; one stream (the Sha Ho) flows past Ningkwofu to the village of Hsi-tou-mên, where it bifurcates, one branch (called the Kuei-hsi Ho) turning W. and flowing into the Yangtse at Wuhu, another branch going N. for 3 miles to Hsiao-hua-liu-chia-ts'un, and then winding NW. and flowing into the Yangtse at Taiping An. Other streams from the hills near Ningkwofu must flow N. into the Hsiao-nan Hu (lake), from which one branch (the Kaoshun Ho) flows out at the NW. corner at the city of Kaoshun and joins the Sha Ho at Hsiao-hua-liu-chia-ts'un, whilst another stream (the Kucheng River) flows out at the NE. corner at the town of Kucheng Ku to the Upper Barrier (Shang-pa). Here its further progress is entirely blocked by the barrier, a stone dam built across it. Numerous side-creeks take off some of the water from the river.

At the Upper Barrier the old course of the river has been blocked up for three miles to the E., as far as the Lower Barrier (Hsia-pa), and a canal without outlets has been made, along which only small boats can go. This canal is about the same level as the Kucheng River.

At the Western Barrier begins the Tung-pa River (formed by the rains). It is 24 ft. below the level of the canal between the Barriers, and flows easterly to Ho-k'ou-chên, where it crosses the San-t'a Tang, and continues to Liyanghsien, to the W. of which it is joined by the Kintan River, coming from

the N. It is now called the Wên-ting River and flows to the S. of the city of Ihing, eventually going into the T'ai Hu.

The Pin-yün River coming from the Hsi-t'ai Hu flows S., and passing to the E. of Ihing joins the Wên-ting River and flows into the T'ai Hu.

The Loshe River also starts from the Hsi-t'ai Hu and flows E. into the Grand Canal, half a mile N. of Loshe.

Père Havret in his monograph on Anhwei (pp. 6-8) states that originally there was an outlet for the Yangtse from Wuhu to Ihing. Owing, however, to the floods caused by it, a single barrier was put up across the river in 1368. This was broken through in 1849, and was replaced by the present double barriers (upper and lower), while the bed between them was narrowed into a canal.

When the Yangtse is high its waters overflow into the side creeks, and the current will be found to flow out of the Yangtse instead of into it. This is the case in the Kuei-hsi River, called by foreigners the Wuhu Creek.

The rivers followed in this route vary a good deal, but they are mostly 40-50 yds. wide and 7-10 ft. deep. The inhabitants state that from December (and perhaps November) to March the rivers are low, and usually boats cannot go beyond Ho-k'ou-chên (11½ miles east of the Lower Barrier), nor from the Upper Barrier W. to Kaoshun. There are also two shallow places between Wu-hsi (20 miles E. of Wuhu) and Wuhu, and even in December a steam-launch had to unload passengers to get over. The river from Taiping An to Hsiao-hua-liu-chia-ts'un is deeper than that from Wuhu to the same place, and big boats can go by the former when the latter is impassable. Large salt junks from Chinkiang go up to Kaoshun by the former route.

The autumn rains of 1907 made the river abnormally high in December, and it was possible to go right up to the Lower Barrier and start again from the Upper Barrier, but this is said to be quite exceptional. (For description of the Barriers see mile 90¾.) It was stated that ice never affects the rivers, but there was no way of judging, as it was very mild in December 1907.



Bridges and ferries are numerous east of the Barriers, and ferries also west of them, but east of the Barriers a boat is not always at hand for crossing the side-creeks. Sometimes the entrances to these side-creeks are bridged, sometimes the bridges are some hundred yards up, and sometimes they are non-existent. The lowest bridges are those round the city of Liyanghsien.

Steam-launches have been right up to the Lower Barrier. There is a regular service from Wusih to Liyanghsien, and a steam-launch has recently been started from Liyanghsien to Ting-pu-chên (3½ miles E. of the Lower Barrier). Steam-launches run from Wuhu to Ningkwofu, following this route as far as Hsi-tou-mên.

The common types of boats between Loshe and the Tung-pa Barrier are: (a) *Mi-ch'uan* or rice boat, averaging 40 ft. long, 6 ft. wide, 3 ft. draught, carrying 40 or 50 tons. (b) *Hu-ch'uan*, from the T'ai Hu, 75 ft. long, 11 ft. wide, 3½ ft. draught; a flat decked boat, and in mild weather the most suitable for transport of men. (c) *Kao-shun-ch'uan*, 50 ft. long, 11 ft. wide, 3½ ft. draught, carrying 36 tons. (d) *Ssü-chua-ch'uan* or *p'u-tsao-tzũ*, 45 ft. long, 9 ft. wide, and 3½ ft. draught, carrying 27 tons. (e) *Ya-shao-tzũ*, 40 ft. long, 7 ft. wide, 3½ ft. draught, carrying 22 tons. About 40 boats of the above types were counted at the Tung-pa in December, 1907, and smaller boats were very numerous. On the western side of the Tung-pa Barrier the *kao-shun-ch'uan* are used, but most of the boats on that side are Anhwei boats. The biggest boats that go up the Kuei-hsi River from Wuhu to Kaoshun carry 40-45 tons, but the waterway from Taiping An to Kaoshun is navigable, except from December to March, for sea-going *yen-ch'uan* or Salt Junks, 90 to 100 ft. long, 10 ft. wide, 6½ ft. draught, carrying 136 tons.

The country is flat, with slightly undulating ground near the Barriers. On the eastern side it is generally highly cultivated, with some lakes, or rather swamps. There are usually hills to the S. Beyond the Barriers, going W., the country is very low-lying and was mostly under water in December, 1907; in addition there were large patches of

waste land, especially approaching Wuhu. The country is open, and E. of the Barriers intersected by very numerous creeks in every direction. Villages are numerous and there are trees around them, but on the whole it is sparsely wooded.

It would be a difficult country for the passage of troops by land; impracticable for cavalry or field artillery. In fact, it could only be done by the construction of innumerable bridges in parts between the Grand Canal and the Hsi-t'ai Hu, and from Ihing to Liyanghsien.

There are poor towing-paths from the Hsi-t'ai Hu to Ihing, and from the Upper Barrier to Kucheng Ku. From Kaoshun to Hsi-tou-mên the towing-path is broader, and it widens to 6-10 ft. along the Kuei-hsi River. Here there were tracks of wheelbarrows, though none were actually seen.

The banks are generally high, especially W. of the Barriers, and obstruct the view from the boats.

The country is unsuitable for camping-ground, except actually at the Barriers; on the western side it was mostly flooded, and on the eastern side mostly given up to paddy-fields.

The country is thickly populated, and rice, vegetables, fish, ducks, and pork can be obtained in large quantities; chickens are scarce. Bullocks are plentiful, but beef is not generally procurable in shops. Small white goats are fairly plentiful. There is native flour, but it is of very poor quality.

Water, as usual in China, would have to be boiled.

(Apart from going via Chinkiang, the alternative route would be to go from Kaoshun as far as Hsiao-hua-liu-chia-ts'un and thence to Taiping An, said to be 30 miles distant. This would be preferable for big boats.)

miles

0

**Loshe** (Lo-za), P. Follow the W. bank of the *Grand Canal* from Loshe bridge in NW. direction for 940 yds. Chief towing-path on E. bank.

$\frac{1}{2}$

*Hua-tu-ch'iao* (Hu-tou-chiao). Single-arch bridge

miles

14 ft. above water and  $5\frac{1}{2}$  yds. wide, over entrance to the *Loske River*, here 30 yds. wide, 8 ft. 5 in. deep.

For next  $2\frac{1}{2}$  miles a winding footpath to N. of river can be followed.

1     **Liu-hsiang** (Lei-hang), 30 houses, 300 yds. to N. of river. Through **Ch'ên-hsiang** (Shên-hang), 30 houses and **Kuo-hsiang** (Kei-hang), 40 houses.

$1\frac{1}{2}$    **Hui-hsiang** (Hui-hang), 30 houses, 100 yds. from l.

$1\frac{1}{2}$    **Ta-ch'uan-t'ou** (Ta-zên-t'ei), 200 yds. from r. Here river winds a good deal and path has to bend further to N., and crosses two creeks by footbridges.

$2\frac{1}{2}$    **Kao-ming-ch'iao** (10 houses), with single-arch stone bridge, 8-yard span and 15 ft. above water. River 30 yds. wide, 8 ft. 11 in. deep.

$3\frac{1}{2}$    **T'ang-hsiao-ch'i-hsiang** (Tang-hsieh-chi-hang), 15 houses, 50 yds. from l. River now 70 yds. wide, 11 ft. deep, with marshy ground 150 yds. wide on S., and a passage for boats at southern end.

$3\frac{1}{2}$    **Hsia-ch'i-hsiang** (Hu-chi-hang), 60 houses, 300 yds. from r. A ferry over river, here 50 yds. wide.

*Hui Shan* (Wei Sän, mountain), 3 or 4 miles to SE., with lower hills running from it to the SW.

4     A creek runs for  $1\frac{1}{4}$  miles to S., when it ends, passing *Yang-shu-yüan* (Yang-tzû-shuo) after a mile.

River now 100 yds. wide, mostly 9 ft. deep, passes a swamp  $\frac{1}{4}$  mile broad, and extending S. to *Yang-shu-yüan* creek.

$4\frac{1}{2}$    River 11 ft. 5 in. deep.

A branch canal runs northwards past *Hsia-ch'ang-t'ou* (Hu-chang-t'ei) into the Grand Canal.

River now 30 yds. wide and 12 ft. deep.

$5\frac{1}{2}$    **Pei-hsin-ch'iao** (Po-hsin-chiao), 50 houses, on r., with a single-arch stone bridge over river, span 6 yds. wide and 15 ft. high.

$6\frac{1}{2}$    Canal crosses river at right angles, 40 yds. wide

miles

crossed by a stone bridge  $\frac{1}{4}$  mile to S. of the river, and by a plank bridge 200 yds. to N. It flows into the Grand Canal; the natives state it joins the Yangtse.

Soon afterwards reach **Ch'iang-hsiang-shang** (6 houses) on l. River now 11 ft. deep, 50 yds. wide.

7 **An-ch'iao** (Un-chiao), 25 houses.

Canal to N. goes to Kiangyin.

Single-arch stone bridge over river. Beyond it another creek crosses canal. Canal 8 ft. deep and 60 yds. wide.  $\frac{1}{4}$  mile wide belt of reeds and marsh on l., with parallel creek (with boats) beyond.

Country on r. low-lying, protected from river by 3 ft. bank.

8 Swampy ground on l. ends.

Another cross creek, 40 yds. wide, with stone bridge  $\frac{1}{4}$  mile to N.

River 9 ft. deep, soon 12 ft., and 30 yds. wide. **Ma-chia-kou** (Mo-ku-kei), 40 houses, 600 yds. from r. **Tso-shê-li** (Tsei-sa-li), 45 houses, 300 yds. from l.

8 $\frac{1}{2}$  **Kuan-t'ang-ch'iao** (Huan-tang-chiao), 30 houses, with a single-arch stone bridge over river. River 20 yds. wide, soon 30 yds. Mostly reeds and marshy on l.

9 $\frac{1}{2}$  **Ts'ên-ts'un** (Chên-ts'ên),  $\frac{1}{2}$  mile from r., with cross creek from it.

This creek, spanned by a stone bridge, runs S. to Wusih.

River 11 ft. deep to 13 ft., 50 to 100 yds. wide.

10 **Nan-yang-hu** (Nê-yang-wu), 20 houses, on l. *Hsi-yang Shan*, 600 ft. high, 2 miles to S. This hill is a conspicuous landmark.

10 $\frac{1}{2}$  Another canal goes S., joining creek from Ts'ên-ts'un to Wusih, passing **San-pai-tu** 300 yds. from l.

10 $\frac{3}{4}$  **Tung-chien** (20 houses) on r. River over 100 yds. wide. Three-arch stone bridge, 6 ft. high, over

miles

- entrance to canal on r. River 10 to 13½ ft. deep. Reeds along l. Many side-creeks.
- 11¾ Reeds on l. Ferry to **Hsi-chuang** (Si-chang), 30 houses, 300 yds. from l. River 40 yds. wide.
- 12 **Taikikiao** (Tie-chi-chiao), P., said to have 200 houses (only 40 or 50 near river) on r. Another stone bridge over river. Just below it river bifurcates, the southern channel being the Loshe River.
- The northern channel is said to go on to Changchow Ku on the Grand Canal.
- River now 60 yds. wide, 10½ ft. deep. Many small side-canal.
- 13 Rice-fields and marshy on l. Creek on r., which ends after ½ mile. River 50 yds. wide, 9½ ft. deep.
- 13¾ **T'ien-ching-ch'iao** (Tieh-ching-chiao), 80 houses, on r. River crossed by single-arch stone bridge. Above it river joined by creek coming from S.
- The creek comes from the T'ai Hu via Hsi-yen-ch'iao, and is used by numerous boats.
- River 40 yds. wide, 12 ft. deep.
- 14¼ *Chiang-chuang-ch'iao*, a single-arch stone bridge, with **Chiang-chuang-ts'un** (30 houses), 100 yds. to l. River 14 ft. deep and 40 yds. wide. Country on l. less low-lying. River soon 70 yds. wide, and 9 ft. or 10 ft. deep in centre, 6½ to 7 ft. near l. bank.
- 15 Creek, 40 yds. wide, goes to Tanyang on the Grand Canal.
- Route turns SW. Small clumps of pampas grass scattered about. **Pien-chia-t'ou** (Ping-ka-t'ei), 20 houses, 50 yds. from l. Small villages more plentiful, with trees and some bamboo.
- 15¾ River 11 ft. deep, 40 yds. wide.
- 16¼ **Hsia-tu-ch'iao** (Ho-tu-chiao), 13 houses, on r. A single-arch stone bridge across river. **Nan-chai-chên** (Nê-cha-chên), 80 houses, ½ mile to S. A good many small clumps of pampas grass for the next 6 miles.

miles

River 50 yds. wide and 11 ft. deep.

- 17½ *Fu-shan-ch'iao* (Fu-sän-chiao), single-arch stone bridge over river. **Lai-chuang** (40 houses) 300 yds. from r.

200 yds. above bridge river bifurcates, making a small island. Northern channel not passable for big boats owing to a low wooden bridge just before it rejoins main channel. Go by southern channel, nearly due S., 35 yds. wide and 10 ft. 5 in. deep.

- 18¼ Go westerly, a smaller channel going on S.

River 13 ft. deep.

- 18½ Small channel rejoins river just below. *Ying-shih-ch'iao* (Ying-za-chiao), a single-arch stone bridge, roadway of beams. Five houses on r. River 30-40 yds. wide, 12 ft. deep. Banks and surrounding country higher, 4-6 ft. above water, a towing-path on r. to Yün-ts'un-ch'iao. Creeks not so numerous.

- 20¼ **Yün-ts'un-ch'iao** (Ying-ts'ên-chiao), 80 or 100 houses, with shops and single-arch stone bridge over river.

- 21 *Chu-chuang-ch'iao* (Zu-chang-chiao), single-arch stone bridge over river. Only zigzag and very uneven paths across fields.

- 21¾ **T'ou-chuang-ts'un** (T'ei-chang-ts'ên), 35 houses, 200 yds. from l. Now through a small lake or swamp ½ mile long by ¼ mile broad.

- 22¾ River 40 yds. wide, 10 ft. deep, swamp ½ mile wide a short distance from l. **Yang-ch'iao-chia-ts'un** ¾ mile to S. Skirt marsh ½ mile wide on r. Towing-path (very uneven) on l.

Country now only 2-4 ft. above water-level. Villages and trees beyond marshy ground.

- 24½ A short cut for small boats branches off on r.

- 24¾ Loshe River, which has been followed up to here, is partly an overflow from the *Hsi-t'ai Hu* (Si-t'a Wu). This lake is about ¼ mile to W., and is apparently

miles

mostly covered with reeds. It is said to be 45 li (15 miles) from N. to S. and 10 li (over 3 miles) from E. to W. The Loshe River, just before crossing the Pin-yün River from W. to E., flows under a five-arch stone bridge (*Wu-tung-ch'iao*), whose arches are only 4-6 ft. above the water.

Now leave the Loshe River, and turn S., following down the *Pin-yün River* (Ping-ying Ho), which flows S. It is said to come from Changchow Ku, 60 li (20 miles) distant to N.

**Hsia-fang-ts'un** (Hu-fang-ts'ên), 50 houses,  $\frac{1}{2}$  mile to N. of Wu-tung-ch'iao.

Starting from this bridge, go south along l. of Pin-yün River, badly paved and very uneven towing-path, which crosses entrances of side-creeks by small stone bridges with steps. Path often paved with broken slabs, past paddy-fields on W. Pin-yün River about 40 yds. wide, 12-13 ft. deep, very clear water. Hsi-t'ai Lake  $\frac{1}{2}$  mile to W.; beyond reeds a few sails were seen in distance.

25 $\frac{1}{4}$  **Chung-ch'i-ch'iao** (70 houses), with single-arch stone bridge over river. Pass one or two brick-kilns.

25 $\frac{3}{4}$  *Hsi-t'ai* Lake about 70 yds. to W. It soon recedes from river.

26 $\frac{1}{4}$  **Li-shu-chiang** (Ni-shu-kang), said to have 200 houses, but apparently less; 100 yds. to W., on side creek, which runs from W. to E. **Hsieh-shao-ch'iao** (marked Sie-jow on Wade maps) on or near the T'ai Hu.

27 $\frac{1}{2}$  **Kuei-miao-ch'iao** (30 houses), with single-arch stone bridge over river.

29 $\frac{1}{4}$  Enter **Hokiao** (Hu-jow or Hu-chiao-tsên), P., a long straggling market town without any walls, chiefly on r. It is said to have from 1,400 to 1,800 houses. Three single-arch stone bridges cross river. Bridges called *Ho-fêng-ch'iao*, *Ho-ch'iao*, and *Ho-hsing-ch'iao* respectively.

miles

30 Leave Hokiao. Hsi-t'ai Lake said to be 10 li (3 miles) to W. Country around very flat, with some low hills to the SE.

Follow along towing-path on r. Country 4-8 ft. above water-level. Towing-path crosses ten small bridges over creeks.

32½ Eleventh side-bridge, the *Hsieh-ling-ch'iao*, over creek 40 yds. wide.

The creek comes from Kao-shêng-shih (Kao-sêng-ssü) on the W. It flows E. for a short way only, and then ends. Maps erroneously continue it to Huang-p'o-chên (Wang-po-tsên) and the T'ai Hu.

33 **Chi-t'ing-ch'iao** (Jee-ling-jow), village of 70 houses with market (fish, pork, sweet potatoes, cabbages, turnips, onions, oranges, and peanuts). Here cross to l. by a single-arch stone bridge. *Ch'i Shan* (hill) 2 miles to E. Hills on E. now end.

Country now 8-10 ft. above water-level. No good camping-ground even here, as the paddy-fields in the winter are covered with manure.

33½ Third side-bridge from Chi-t'ing-ch'iao.

**Yu-ch'ê-pêng** (Yü-so-pang), village 100 yds. up creek to W.

34 Creek, 40 yds. wide, flowing east, crosses river, coming from Kao-shêng-shih and going to Ting-shou-shan. Cross over it on l. by the *Chan-tu-ch'iao* (Satu-chiao), a stone bridge 14 ft. above water-level.

35½ **Shih-li-p'ai** (25 houses with 3 inns), with another single-arch stone bridge over river, called *Hsing-li-ch'iao* (Hang-li-chiao). Some irrigating wheels near banks. Hills now visible to S. Cross several small side-bridges over creeks.

37½ *San-li-ch'iao*, single-arch stone bridge over river. Small six-storied pagoda on l., 400-500 yds. S. of it.

38 *Kao-ch'iao*, a single-arch stone bridge. Here Pin-yün



miles

River bifurcates, main channel turning east under this bridge.

A smaller channel continues S., and passing under a small stone bridge forms a moat outside north wall of Ihing. This channel is 15 yds. wide. At NW. corner of Ihing it passes under another bridge and flows into the lake to the W. of that city.

The main channel, after passing under the Kao-ch'iao, flows to the NE. corner of Ihing, passes under two bridges, draws near to east wall, and continues to the east water-gate.

Another channel turning E. at the east gate flows through a lake some two miles long and about 300 yds. wide (from N. to S.). At the end of this lake it turns NE. into the T'ai Hu, said to be 30 li (9 miles) distant from Ihing.

About  $\frac{3}{4}$  mile E. of the east gate there are two channels, about 100 yds. from each other; the western one is passable for small boats and goes to the SE. corner of Ihing, and then follows near the south wall, passing under a stone bridge (8 or 9 ft. above water-level, where water is only 5 ft. 4 in. deep) and joining the lake at the SW. corner of the city.

The eastern channel is used by steam-launches, and passes under a stone bridge 600–700 yds. from the south gate of the city, and goes into the lake about  $\frac{1}{4}$  mile from the SW. corner.

39½

**IHING**, P. T., a walled city (about 5,000 houses), consisting of two districts, viz., *I-hsing Hsien* (Ni-hsing Hsien) on W. and *Ching-hsi Hsien* (Tsing-chi Hsien) on E., thickly populated (see *Gazetteer*). Route approaches West Gate.

A canal flows through the city, passing through water-gates in west and east walls, and crossed by a stone bridge in centre of city. Beyond the east gate, creek to E. leads to T'ai Hu and Huchowfu (see Route 1 D).

miles

Foot-hills 2 miles to the SE. of city with some scrub ; several miles to the S., high barren hills of which the *T'ung-kuan Shan* (Tung-kuo Sän) is the highest. Large lake to the W. of the city called the *Tung-kuei Hu* (Tung-chiu Hu). Leaving west water-gate of Ihing, go W. across the Tung-kuei Hu,  $2\frac{1}{2}$  miles from E. to W., and over 2 miles at widest from N. to S. Water flows E., not very clear, but not muddy.  $7\frac{1}{2}$  ft. deep outside west water-gate, and 7 ft. 11 in. deep for three soundings in centre. Two or three villages near south shore, some reeds along north shore. Country still thickly populated.

At west end of lake, big boats keep near south bank, though small boats can go between mud banks and reeds further north, passing close to a small tower (*t'ing-tzü*) on north bank at exit from channel. A lamp in this tower at night shows boats the channel.

- 42 **Tung-hsi-t'ou** (Tung-sê-t'ei), 42 houses, on a creek, 100 yds. from south bank near channel at exit from lake. Here coarse thick brown packing paper is made from rice stalks.

Channel at exit from lake,  $\frac{1}{4}$  mile long, 200 yds. wide, and then opens out into a larger lake, the *Hsi-kuei Hu* (Si-chiu Hu), some 5 or 6 miles long and  $1\frac{1}{2}$  to  $\frac{1}{2}$  mile wide from N. to S. Country on S. 3 or 4 ft. above water-level, with high hills 3 or 4 miles to S. Reeds near south bank. Lake at first 9 ft. deep, then  $6\frac{1}{2}$  and 7 ft.

- 45 **Chou-hsi-ts'un** (Zou-chu-ts'ên), village of 20 houses 100 yds. from north bank. **Hsi-nan-ts'un** (Chi-nê-ts'ên), 30 houses, opposite, near south bank of lake. Lake 8 ft. deep in centre, and 7 to  $7\frac{1}{2}$  ft. at west end.

- 48 **Kuan-chia-ts'un** (Kun-chia-ts'ên), 20 houses, with temple at west end of lake. About 1 mile to NE. of it is the *Ch'ên-t'ang-ch'iao* (Ts'ên-tang-chiao), a bridge with a small tower to S. of it.

miles

This bridge is over a creek which comes from Yang-hang-ts'un, said to be 9 miles distant.

48½

*Kuang-yüan-lou* (Kuang-yüeh-lou), a white two-storied tower at western end of lake and south bank of the Wên-ting River. A lamp in it at night shows entrance to river.

Proceed up the *Wên-ting River*, which flows E., water not very clear, but not muddy. At first 70 yds. wide and 9 ft. deep. About ¼ mile from lake one branch of the river flows NE. to Kao-shêng-shih.

49

**P'in-tien** (P'ing-tie), 45 houses, on l., with ferry. **Ch'ang-chü-ts'un** (Zang-chih-ts'ên), 30 houses, 100 yds. from l. An unpaved footpath along a 6 ft. high embankment on r. acts as a towpath. Low-lying paddy-fields partly under water on r.

49½

A smaller creek (which also comes from Liyanghsien, but is a longer route) flows in on r. The towing-path follows up this side-river, which is 20 yds. wide and crossed by two shaky wooden pile bridges about 1½ miles up river. From it there are three parallel creeks to the N., all crossed by shaky wooden pile bridges.

Boats continue up the Wên-ting River.

A creek on l. goes to Changchuchen (Zang-chu-tsên), 9 miles off.

High bare hills to S. now recede. Wên-ting River from 8–10 ft. deep, and at Sûshechen 16 ft. deep.

51

**Sûshechen** (Shu-sa-ts'ên), P., a village of over 500 houses, but only about 80 on the river near Wên-ting Bridge. The bridge is of stone, with large centre arch and two small arches, crossed by 110 steps with 5-yard platform on top, each step 2 ft. wide by 3½ in. high.

A creek flowing S. just above the bridge goes to Chang-chu-chên, 9 miles off; only small boats can go up it.

River here 60 yds. wide, 10 and 11 ft. deep.

miles

Leaving village, towing-path on both banks. Many side-creeks. Embankments 6 ft. above river, low-lying paddy-fields, villages still numerous. No bridges over entrances to side-creeks.

52½ Creek, 50 yds. wide, comes from Yang-hsiang-chên, 6 miles to N.

**Chiang-fu-yü** (30 houses), 600 yds. from r.

**Shê-yü** (So-yü), 30 houses, 100 yds. from l. River 8 ft. deep. Hills now to S. in the distance, except for *Yen-t'ou Shan* (Yeh-tu Shan, 500 ft.), about 4 or 5 miles to the SW., and *Hou Shan*, about 8½ miles to the N., and 600 or 700 ft. high.

53¼ Small creek on r. flows N.

53½ Creek on r. flowing S., from Yang-hsiang-chên, 18 li (5½ miles) to N.

**Wan-chia-yü** (Vän-chia-yü), ¼ mile from r.

54 **Hsia-hsin-tu** (Yo-sin-tu), 30 houses, 200 yds. from r. River 70 or 80 yds. wide, 13 ft. deep.

Side-creek, 60 yds. wide, comes from Yang-hsiang chên to N., and goes to Tai-pu-chên to S.

55¼ **Wu-chia-yü** (Wu-ka-yü), 20 houses, on r.

56 River 60 yds. wide, 11 ft. deep.

57½ *Tu-chi-ch'iao*, stone bridge over river with large centre arch and two small side ones ; 35 steps on each side over it. Arch 18 or 20 ft. above water-level. Liyanghsien visible from it.

58¼ River 60 yds. wide, 12 ft. deep. **P'ao-yü-ts'un** (P'ao-yü-ts'ên), 40 houses, 300 yds. from l.

58½ Cross side-river, 50 yds. wide (flowing S. to Tai-pu-chên). It is crossed by a stone bridge, on four piers, called the *Hsin-chuang-ch'iao* (Sin-zang-chiao), about 600 yds. to the S.

**Hsi-kuo-ch'i-ts'un** (Si-ko-chi-ts'ên), 80 houses, 600 yds. from r. bank. River now 11 ft. deep. Towing-path now only on l.

59¼ **Tung-kuo-ch'i-ts'un** (50 houses), 100 yds. from r.

miles

bank. Towing-path now goes over low stone bridges at entrances to side-creeks.

59½ River 50 yds. wide, 11 ft. deep. Country less low-lying.

60½ *Hsia-ch'iao* (Yo-chiao), a single-arch stone bridge over river, arch 20 ft. above water-level.

**LIYANGHSIEN**, P. T. (see *Gazetteer*). South suburb begins on l.

61½ South Gate of city.

62 West Gate.

The river flows round the city, forming a moat, whilst another channel flows under water-gates from W. to E. The three branches reunite at the SE. corner of the city. Moat about 20 yds. wide and 7 ft. deep, and passes under low stone arches, about 11 ft. above water-level, at the four city gates. Channel through city passes under E. and W. water-gates, about 14 ft. above water-level, and under one high stone bridge in centre of city, and two low stone bridges about 10 ft. above water-level just before reaching E. water-gate. This channel through city is 12-15 yds. wide. There is a three-storied pagoda over E. water-gate.

A steam-launch goes to Wusih one day and returns the next. Steam-launches also run from outside the W. water-gate N. to Kintan Ku and W. to Ting-pu-chên (3¼ miles E. of Tung-pa).

Hills about 3 miles to SW. running S. At first 500-800 ft. high, but higher further S.; bare of trees.

Leaving W. water-gate, go W. through suburb. River 50 yds. wide, 8½ ft. deep. Many boats. After 600 yds. reach the *Shuang-ch'iao* (Sang-chiao), a double stone bridge, N. part with four piers, S. part with two stone piers, 14 or 15 ft. above water-level.

The *Kintan* (Chin-t'an) River (from Kintan Ku,

miles

90 li distant) from N., and a stream from NW., join above bridge and flow through northern bridge. The Tung-pa River coming from the W. flows through the southern bridge, and all three unite below the bridges.

Towing-path on r. at first paved with uneven slabs. In places barely room for two persons to pass. *Tung-pa River*, 40 yds. wide,  $8\frac{1}{2}$  ft. deep.

62 $\frac{3}{4}$  **Hsü-chu-ts'un** (Su-chü-ts'ên), 40 houses,  $\frac{1}{2}$  mile to N. Three-arch stone bridge over Kintan River  $\frac{3}{4}$  mile to N. High hills in distance to the S. run in a southerly direction.

63 $\frac{1}{2}$  **Hsia-ho-t'ou-ts'un** (Yo-ho-t'ei-ts'ên), 30 houses, on l.

63 $\frac{3}{4}$  *T'u Shan* (Tou Shan), 100 ft. high, on l. From it bare grass hills run S. and W., gradually receding and increasing in height.

A ferry. River  $8\frac{1}{2}$  ft. deep.

64 $\frac{1}{2}$  *Wang-chia-ch'iao*, a wooden pile bridge over river **Hsü-chia-ts'un** (Su-ka-ts'ên), 40 houses, 200 yds. to N. River 8 ft. deep.

65 $\frac{1}{2}$  **Wu-t'an-tu-ts'un** (Wu-t'uan-tu-ts'ên), 40 houses,  $\frac{1}{4}$  mile to N. Wooden bridge over river. Hills to S. gradually recede.

66 $\frac{1}{4}$  **Chiang-tien** (20 houses, with shops and inns), on r. Wooden bridge over river. Towing-path now unpaved; 600-ft. hills 4 miles to S., running E. and W.

67 $\frac{1}{4}$  Wooden bridge over river. **Hsin-ch'ang-chên** (Hsin-t'an-tsên), 50 or 60 houses,  $\frac{1}{4}$  mile to S. River  $9\frac{1}{2}$  ft. deep.

67 $\frac{3}{4}$  Wooden bridge over river to **Kan-hsi-ts'un** (Han-shih-ts'ên), 50-60 houses,  $\frac{1}{4}$  mile to S. **Ch'ien-chia-yü-ts'un** (Chin-ka-yü-ts'ên), 40 houses,  $\frac{1}{2}$  mile to N. River  $9\frac{1}{2}$  ft. deep.

69 $\frac{1}{4}$  **Li-chia-cha** (Li-ka-za), 30 houses, on l. River 12 ft. deep. Wooden bridge over river. Towing-path again paved with broken slabs. River 11 ft. deep.

miles

70½

River 70 yds. wide, with a low bank running parallel to it and 30 yds. from r. ; 5½ ft. deep near r., 10½ ft. deep near l.

*Hsiao-chin Shan*, 100 ft. high, 1 mile to S. Hills to S. now a long way off. Towing-path again unpaved.

71½

**Nan-tu-chên** (Lan-tu-tsên), over 300 houses, a busy market town on both banks, with narrow dirty streets. Here a war junk and wooden *likin* barrier across river above bridge, closed at nights. A single-arch stone bridge, 25 ft. above water-level, and 25 ft. wide ; 8 ft. deep under it.

There is a road to Nanking, via Lishui, said to be 240 li (72 miles) by one account and 300 li (90 miles) by another.

Leaving Nan-tu-chên, river 100 yds. wide, 8 ft. deep. Unpaved towing-path on r.

71½

Reach *Nan-tu-tang* (Lan-tu-tang), a swamp (mostly reeds) with channel 2 ft. deep running round it. River runs through on S. side, lake ¾ mile wide from N. to S.

**Chung-ch'iao-ts'un** (Chêng-chiao-ts'ên), ¾ mile off at NE. corner. River 5 ft. deep for a few yards at exit of lake, then 8 and 9 ft. Path runs round N. side of lake. Two or three creeks come in on S. side.

72½

Lake ends. River 60 yds. wide, soon 50 yds., and 8½ to 9 ft. deep by constant soundings for next 3 miles.

**Lao-kan-tsui** (La-kun-tsei), 10 houses, 300 yds. to N. Towing-path still on r.

73½

*Pa-t'ou-ch'iao*, stone bridge over river with centre arch 20 ft. high and 20 ft. wide, and two small side arches. Paved slope over it, 31 yds. long. River 40 yds. wide.

73½

*So-t'o-miao*, small temple on r. Towing-path crosses side-creeks by low stone bridges. River 35 yds. wide.

74½

Towing-path crosses side-creek by a wooden pile bridge.

miles

The side-creek goes to **Ch'iang-pu-chên** (Chang-pu-tsên), village of 75 houses, 1 mile WNW.

**Ch'ien-shih-ts'un** (Ch'ien-su-ts'ên), village of 40 houses,  $\frac{1}{4}$  mile to ESE. High hills 9 miles to W. Direction of route, SSW.

75 **Ch'ien-k'ou-tang** (Ch'in-k'ou-tang), 16 houses, on r. River 40 yds. wide.

75 $\frac{1}{4}$  **Ch'ien-k'ou-chên** (Ch'in-k'ou-tsên), 30 houses, on r., with wooden pile bridge over river on four trestles. Centre span 30 ft. high and 30 ft. wide. Towing-path on l. River 30 yds. wide.

75 $\frac{1}{2}$  River enters. *San-t'a-tang* (called Ch'ien-k'ou-tang on E. side). The lake is really a swamp with reeds (used for forage), mostly only a few inches under water, with channels cut through in various directions. It is  $2\frac{1}{2}$  to  $3\frac{1}{2}$  miles wide from N. to S. The river runs through it (WSW.) to Ho-k'ou-chên,  $6\frac{1}{2}$  ft. deep at first, then 7-7 $\frac{1}{2}$  ft. deep, occasionally 8 ft., deepest about 10 yds. from l. River flows easterly.

Single stones, about 10 ft. high, mark channel at intervals of 500 or 600 yds. along r.

A path runs on N. side of lake to Ho-k'ou-chên, said to be 20 li (6 miles) by land.

Low foothills on N. and S. sides of lake.

77 Arch of broken stone bridge over side creek on l.

77 $\frac{1}{4}$  Towing-path along l. Ground to S. now 1 ft. above water, and a little rice grown in places.

79 $\frac{1}{2}$  **Ho-k'ou-chên** (Ho-kei-tsên), 35 houses, at entrance to lake, with stone-arch bridge over river, centre arch 25 ft. high and 30 ft. wide, and two small side-arches. River 8-10 ft. deep.

**T'ang-chia-ch'iao** is to the NW. of Ho-k'ou-chên, and said to be 18 li (4 or  $4\frac{1}{2}$  miles)<sup>1</sup> distant, but the river does not pass it.

<sup>1</sup> According to War Office MS. map of South Kiangsu the distance is less than 3 miles.



miles

Go S., towing-path along r. River 45 yds. wide, 9½ ft. deep.

After 600 yds., creek going NE. to A-tzŭ-chiang, 1 mile off.

River embankment 20 ft. high on r., 15 ft. high on l.

80½ Reach the *Ting-pu-tang* (marked Shêng-ping-tang on maps, these lakes, like the rivers, having many local names), a lake, or rather, swampy ground with channels through it. It is about 4 miles from N. to S., and 3 miles from E. to W.

One channel goes S. through centre to Shê-chu-chên (Sa-chu-tsên), 15 li off.

River goes along W. side, embankment 100 yds. distant from it. Towing-path on l., where ground is 2 ft. above water. River 5 and 6 ft. deep.

80¾ **Shih-chia-t'ou-ts'un** (Su-ka-t'ei-ts'ên), 10 houses, on r. River 50 yds. wide, 6½ and 7 ft. deep.

81 A channel runs along W. side of lake. Leaves lake and winds W. between 15-ft. embankments. Unpaved towing-path on r., a few low hills 5 or 6 miles to W. River 40 yds. wide, 7 ft. deep.

81½ Turn SW.

82¼ River 7 ft. deep. A ferry. Not many side-creeks.

83¼ Bend S., rising ground (30 ft. high) ¾ mile to W., running N. and S., with small clumps of fir.

83¾ Rope ferry across river.

84½ **Kuan-yin-chuang** (Ku-yin-tsang), 15 houses, on l. River 35 yds. wide and 7 ft. deep.

84¾ Bend WSW. Embankment on r. 6 ft. high.

85½ **Wei-ts'un** (30 houses), 300 yds. from r.

85¾ Slightly rising ground 200 yds. to N.

Country on l. now higher. Embankment 6 ft. above river. River 35 yds. wide, 7 ft. deep.

86½ Banks again 15 ft. high, river 7 ft. deep. Slightly rising ground with some fir trees ½ mile to S. Turns W.

87½ **Ting-pu-chên** (said to be over 1,000 houses), a dirty

miles

town with narrow streets, following chiefly along r. It is unwallled. There is a *likin* barrier below the town. River is crossed by three stone bridges; first one on two piers (centre arch 18 ft. high, 18-20 ft. wide), second bridge on four piers (centre arch 14-16 ft.), third bridge on four piers (centre span 14-15 ft.). Here wheelbarrows are plentiful, and one pony was seen. Country now 12 ft. above river, which is 30 yds. wide.

88½ Bend NW. Small clumps of fir dotted about. Very slight current in the river.

88½ River 6½ ft. deep.

89 Country slightly undulating. Turns W. Soon a ferry.

89½ **Hua-yeh-mên-ts'un** (50 houses), ½ mile to r. River 25 yds. wide, 6 ft. deep.

90 Cross stone bridge of two piers over side-creek, going NE. Paved towpath on r. River 7 ft. deep.

90½ **Hsia-tung-pa-chên** (about 200 houses) on r., a dirty little town with shops. Opposite the town is the Lower Barrier (*Hsia-pa*). This is a dam across the river, completely blocking it up. Paved steps lead down on each side, the lower river being some 24 ft. below the level of the upper canal. This lower barrier has a paved roadway 7 yds. wide at the top of the dam, from which 11 steps (more under the water) lead down to the canal to the W., and 52 steps (more under the water) to the Tung-pa River on the E. When visited, this roadway was some 6 ft. above the level of the canal and 30 ft. above the Tung-pa River. It is stated that big boats cannot be hauled over, but small boats are taken over by covering the steps with mud. However, if it were really necessary to haul over a big boat, it could probably be done. Small boats can be hauled over the dam. A slight overflow from the upper canal flows by a small creek about 100 yds. S. of the dam and eventually joins the

miles

Tung-pa River. River 7 ft. deep below the dam. A temple, *Ta-wang-miao*, projects into the river from the r. Boats can anchor close up to the dam. The Barriers date from the Ming dynasty and consist of a canal 3 miles long, running nearly due E. and W. and completely dammed up (except for small overflow creek near the Lower Barrier) at both ends. There is no stream in the canal or Upper Tung-pa River, and the water is rain-water. It is stated that the Tung-pa River is not affected by ice.

From the Lower Barrier (Hsia-pa) to the Upper Barrier (Shang-pa) the direction is a little S. of W., the paved footpath running near the S. bank of the canal, well paved with slabs laid crosswise. Numerous wheelbarrows. Low rolling country, partly grass, partly cultivation. A little kaoliang. Fir clumps dotted about. The canal goes through a cutting. There are about 70 or 80 small boats on it, called *po-tzŭ-ch'uan*—long, low-lying, open boats, the small-sized about 45 ft. long and 2 ft. wide and drawing 1 ft. 8 in. when full. They can carry 80 *tan* (about 7 tons). The large-sized draw 2 ft. 8 in. when full. The canal usually freezes once or twice annually for two or three days, but the ice can easily be broken. In December, 1906, it was frozen for two days.

Small boats can go all the year, but the larger size can usually go only in the winter. Two or three small creeks drain into the canal.

Leaving Hsia-tung-pa-chên, go W. Canal 70 or 80 yds. wide,  $12\frac{1}{2}$  ft. deep (soon 7 ft.); embankments 16 ft. high. Water slightly muddy.

91      **Wei-chia-ta-ts'un** (60 houses), on north bank.

91 $\frac{3}{4}$       Embankments 20 ft. high. Canal 3 ft. 6 in. deep near S. bank.

92      Canal narrows to 20 yds., and gradually to 15 and 10 yds., 4 ft. 9 in. deep.

miles

92½

*Wu-li-t'ing*, a temple, on S. bank. Cutting now 50-70 ft. deep, and 60-80 yds. wide, mostly given up to paddy-fields, 1 or 2 ft. above level of canal, which is 10 yds. wide, 3 ft. 6 in. deep. Apparently the canal has been allowed to fill up, or else the original cutting was not completed. Canal soon mostly 6 yds. wide, and 2 ft. 9 in. to 3 ft. deep. Only smaller boats can pass each other, larger size having to wait where canal is wider. One or two nullahs run S.

*Yu Shan* (hill), with white temple 6 or 7 miles to NNW.

93¾

**Shang-tung-pa-chên** (300 houses), another dirty little town with narrow streets. Here is the Upper Barrier (*Shang-pa*), another dam blocking exit of canal, with paved roadway across top and paved ramp (with 7 steps on E. side) running down on each side.

Leaving the Upper Barrier, towing-path along l. of the *Kucheng River*, which flows E. At first 10 ft. deep and 40 yds. wide, soon 70 yds. wide, and near l. soundings gave 9-11 ft. with occasionally 7 ft. Surrounding country undulating on r. Direction westerly. Soon 10 ft. embankments on l. Towing-path 2 or 3 ft. wide and unpaved. Lower ground chiefly rice.

94½

*Chih-lung-ko* (Ssü-lung-ko) Temple, built into river from r. Undulating ground to S. recedes, paddy-fields near l.

95

**Wu-chia-tzŭ** (20 houses, partly of stone, partly mud hovels), on l.

95½

Lake formed by rain-water, 1 or 2 ft. deep and ½ mile wide (N. to S.), begins on the S., 30 yds. off. It is surrounded by a 10-ft. embankment, with a creek from river running round outside. **Hsia-chuang** (10 houses) with a ferry.

miles

96½

**Shuang-ho-k'ou** (4 houses). First lake ends. Pile bridge over creek between embankments separating it from second lake, which is also ½ mile wide, and 1-2 ft. deep, and only separated from the river by the 10-ft. embankment. Undulating ground to S. of lake. Two similar but smaller lakes separated from river on r. by a 10-ft. embankment.

97½

Another creek crossed by a pile bridge between the embankments of second and third lake, which latter is ½ mile wide, 2 miles from E. to W., and 3 to 3½ ft. deep, and separated from river by the 10-ft. embankment. No communication between waters of lakes and river. **Ch'ien-ts'un-tu** (Hsie-ts'un-tu), 20 houses, on r. with a ferry. **Chang-wei-ch'iao** (Tsang-pu-hsiao), 50 houses, 1½ miles E. of N.

98¾

300-ft. grass hill ½ mile to N. *Hsiu Shan* (bare grass hill, 500 ft. high) ½ mile to S. on border of lake. From it broken hills run S.

**Lao-hsiang-wu** (La-hsiang-kuo), 30 houses, on r.

99½

**Kucheng Ku**, P. (over 500 houses), a straggling town with narrow dirty streets on r. River opens out to a landing-place opposite on l. Only 5½ ft. deep near l., it then narrows to 50 yds., again opening out with a small bed of reeds growing in the centre of the stream. The town lies near the NE. corner of *Hsiao-nan Hu* (marked Kucheng Hu on maps). The Kucheng River and Hsiao-nan Lake do not freeze in winter.

Proceed N. of the small bed of reeds and S. of a ruined lighthouse; channel 8 and 8½ ft. deep. Then NNW. through channel 40 yds. wide, 7½ ft. deep between shallows.

99½

Enter the *Hsiao-nan Hu*, a lake said to be 6 miles from N. to S. Country to N. flat or slightly undulating, hills on E. side. High hills in distance to S. Villages plentiful to N. Lake 8 ft. deep. Current here to E.

miles

100½ **T'ou-tê** (T'ou-tei), 30 houses, 1 mile off on N. bank.  
9 ft. deep.

101 **Hsin-chao** (Sin-tsao), 1¼ miles to N.

103¼ Small joss-house on strip of land running down to lake from N. Depth 6 ft. close up to W. side of it. Kaoshun pagoda ½ mile to N. 7½ ft. deep within ¼ mile of N. bank, but shallows close in.

103½ **Kaoshun**, P., a small unwall'd city (1,789 houses), very narrow with undulating ground behind it (see *Gazetteer*). Situated at NW. corner of the lake (where river enters) and protected from the lake by a 10-ft. embankment which extends ½ mile to south of it, enclosing a lake formed by rain-water. 7½ ft. deep 30 yds. south of embankment, and deeper in channel 30 yds. farther S. This channel runs between reeds which stretch away to the S.

104½ Enter river, 60 yds. wide, 10 ft. deep.

105¼ Kaoshun bridge. A fine stone bridge with 7 arches, large centre one 18–20 ft. high and 20–25 ft. wide. Bridge 7 yds. wide and about 60 yds. long, paved with slabs, stone balustrades nearly 3 ft. high. 13 steps lead up to it on N., and 9 on S. side.

Salt junks from Chinkiang come up to Kaoshun via Taiping An, which is a deeper route than the one to Wuhu.

Leaving Kaoshun, follow down r. bank of *Kaoshun River*, which flows W. between 10–12 ft. wide embankments, unpaved and liable to be heavy. Country on each side low-lying and flooded all the way to Ts'anghsi, protected from river and side-creeks by high embankments. Villages plentiful, mostly 400–500 yards distant on either side.

River 50 yds. wide, 9 and 10 ft. deep.

After 600 yds., creek going 200 yds. to N., and then turning E. leads into a harbour for salt junks in Kaoshun.

miles

- 105 $\frac{3}{4}$  Small island. Channel goes to S. of it.
- 106 $\frac{3}{4}$  **Hsia-kêng** (Hsia-kei), 30 houses, on r. River 11-13 ft. deep.
- 107 $\frac{1}{4}$  Towing-path now 4 ft. wide. Towing-path also on l.
- 107 $\frac{3}{4}$  River opens out to N., deepest near l., 7 $\frac{1}{2}$  ft. deep near centre.
- 108 **Chuang-t'ou-tsui** (Chuang-t'ei-tsei), 30 houses, 100 yds. from r. Here river bifurcates.  
Smaller channel continues straight on (NNW.) to T'ang-kou, 4 $\frac{1}{2}$  miles off.  
Main channel turns at right angles (WNW.), 50 yds. wide and 9 or 9 $\frac{1}{2}$  ft. deep, between 12-ft. embankments.
- 109 **Liu-kêng-chiao** (Liu-kei-kua), 50 mud huts, on r.  
Hence an unbridged creek 35 yds. wide goes NNW. Country continues flooded.
- 109 $\frac{3}{4}$  **Ts'ang-hsi** (Tsan-hsü) (over 500 houses), a small town with paved streets and shops on l., and a small harbour where river opens out. No missionaries here. Continue NW., towing-path on l. (also on r.) of Kaoshun River, on 12 to 15-ft. embankments, 3 or 4 ft. wide on top, and occasionally paved with broken slabs in the centre. River mostly 50 yds. wide, sometimes shrinking to 30 yds., sometimes opening to from 70 to 100 yds., 8 $\frac{1}{2}$  ft. deep, soon 10 ft. deep.
- 110 $\frac{3}{4}$  **Chang-chia-ts'un** (Tsang-chia-ts'un), 40 houses, on r.
- 111 $\frac{1}{2}$  **Hsiao-ch'iao-wan** (100 houses), on l.
- 111 $\frac{3}{4}$  River 5 ft. deep for 300-400 yds.
- 112 Small island in channel, 7 $\frac{1}{2}$  ft. deep on each side of it. After 300 yds., another small island.
- 112 $\frac{3}{4}$  River 11 ft. deep. Cross stone bridge, arch banked up. Here the Kaoshun River joins the *Sha Ho* (Sa Ho).  
Coming from the S., the main branch runs N. and then NW., crossing a waste belt of land (called the

miles

Hsi Hu or Western Lake) and flowing into the Yangtse at Taiping An, whilst a small channel continues NE., skirting on the E. side of the waste land.

Taiping An is said to be 30 miles distant, and this is an important channel 50 yds. wide, up which small salt junks come from Chinkiang.

The Hsi Hu is a broad belt of waste land, here about 3 miles wide, without cultivation, and running up the E. side of the Sha Ho to this spot. It is said to extend S. to Ningkwofu, and from here N. or NE. for another 60 li. In places it is under water, and it is usually about 2 ft. above the level of the Sha Ho without any embankment between.

On the W. side is a smaller channel by which small boats can go from Wuhu to Taiping An in the autumn, and this channel is bounded on the W. by an embankment, with villages.

Towing-path continues along embankment, 15–20 ft. high and 6–10 ft. wide (paved through villages), on r. of the Sha Ho.

113     **Hsiao-hua-liu-chia-ts'un** (50 or 60 houses), on l. Sha Ho 150 yds. wide, but soon narrows to 60 or 70 yds., though often wider opposite villages, when there are usually banks in channel near r. River 13–15 ft. deep, often deeper.

113½     **Ta-hua-liu-chia-ts'un** (over 300 houses), on l.

114½     **Lung-t'an** (Lung-tü), 120 houses, on l.

115½     **Hsi-tou-mên** (Hsi-tei-mên), 50 houses, on l. Here leave the Sha Ho coming from Ningkwofu (130 li to S.), and go west down another branch (the *Kuei-hsi River*) which flows W., winding across the Hsi Hu. It is 50 yds. wide, 15 ft. deep or more, between banks 2 ft. above water. Towing-path along r. (only a track). The Sha Ho, flowing N., is the boundary between the provinces of Anhwei and Kiangsu.



miles

119½

Reach small channel (liable to be dry), with embankment 15-20 ft. high. Coming from W. it runs N. to Taiping An, bounding Hsi Hu on W.

**Ku-chia-tu** (Kuo-chia-tu), 30 houses, 100 yds. N. of where embankment turns N.

Proceed W. along embankment on r. of Kuei-hsi River, channel 50 or 60 yds. wide, but often opening out; beyond channel a belt of waste land 200-300 yds. wide, with a channel on S. side and S. of embankment of river beyond. Towing-path 5 ft. wide at top and unpaved. Country to north of embankment and in distance to S. of embankment low-lying and flooded. Many villages.

120½

Embankment winds round a semicircular bend, enclosing some waste land to N. of channel, rejoining river at Wu-hsi.

121

**Wu-hsi** (Wu-ch'ih), 450 houses, on r. No mission stations. There was, in 1907, one war-junk belonging to the T'ai-p'ing Fu Shui-shih Ying.

Continuing along r. embankment, road on top 6-10 ft. wide. River between 20-ft. embankments, with belt of waste ground between channel and l. embankment, and small channel on S. side. Below Wu-hsi an opening from smaller channel into main channel.

122½

Main channel winds near l. embankment with waste strip near r. River 10 ft. deep.

123½

Channel near r. embankment.

123¾

River 11½ ft. deep.

A channel from Ningkwofu, 90 li (27 miles), comes in from S., but steam-launches from Wuhu go via Wu-hsi.

Main channel again near l.

125½

**Hwangchih** (Wang-ssü), P. (one account says 600 houses, another says 900, some houses of stone), with paved narrow streets and shops. A ferry. Town

miles

mostly on r. 100-ft. hills running E. and W. for  $\frac{3}{4}$ -mile about 1 mile to S. Waste strip alongside river ceases for a short distance.

126 Waste strip again near l., 100 yds. wide, and opening out at one place to a mile. Level of waste 3 ft. above river.

127 $\frac{1}{2}$  **San-li-kêng** (San-ni-kên), 40 houses, on both banks. A ferry.

The *San-ch'a Ho* (San-tsao Ho), 50 yds. wide (here crossed by a ferry), flows N. to Taiping An, 60 li (18 miles) distant, but it is shallow.

Wuhu hills now visible to W.

River 50 yds. wide, 10 ft. deep; r. embankment now several hundred yds. to N. with waste strip, 8 ft. above river-level, between it and main channel. Towing-track along waste; l. embankment near river.

128 $\frac{1}{2}$  River 8 ft. deep.

130 **Ch'iao-t'ou** (Chiao-t'ei), 30 houses, on l. River 150 yds. wide, and only 2 $\frac{1}{2}$  ft. deep for about 200 yds. Big boats can only pass when the river is high.

130 $\frac{1}{2}$  River makes a big bend round to S. **Mu-ch'iao-t'ou** (Mo-chiao-t'ei), 40 scattered houses, on r. River winds S.

130 $\frac{3}{4}$  **Lo-p'êng-wan** (La-pêng-wa), 30 houses, on l. River winds N.

131 $\frac{1}{4}$  **Chiao-t'ou** (Chiao-t'ei), 15 houses, with inns, on r., to S. of embankment.

Waste land with reeds and some marsh stretches away to S. along l., 6–8 ft. above water-level. Country to N. cultivated and not flooded. River 8 ft. deep.

132 $\frac{1}{4}$  **Wan-ch'ing-hu** (Wang-shêng-hu), 80 houses, straggling village below r. embankment. Here river only 3 $\frac{1}{2}$  ft. deep for about 600 yards. Steam-launch for Ningkwofu could not pass, and had to disembark passengers.

After 600 yards 7 ft. deep; deepest near r.

miles

133 $\frac{3}{4}$ 

Embankment on r. 290 or 300 yds. from river, with belt of reeds between.

135

**Ch'ing-shui-ho** (40 houses), on r.

Here branch of river goes S. to Wan-chih (Wan-tzū), 50 li distant.

Embankment on r. with road winds 600 yds. away from river; reeds and some cultivation between. Towing-track near river 6 ft. above water.

135 $\frac{1}{2}$ 

Embankment on l. near river, which is 50 yds. wide, soon 70 yds., and over 15 ft. deep. Swifter current.

136 $\frac{1}{4}$ 

3 or 4 bare grass hills (*Chin Shan*), 200 and 400 ft. high, near l.

136 $\frac{3}{4}$ 

River bends N.

137

**Chung-t'an-k'ou** (Chung-t'ang-kei), 30 houses, on r. River 50 yds. wide. Embankment on r. again near river. Roadway very uneven, only 5 ft. wide.

Country low-lying and in parts flooded.

137 $\frac{1}{2}$ 

River 60 yds. wide. Embankment on l. 50 yds. from river. River over 15 ft. deep. Unbridged creek flowing N., just before reaching Fu-chia-tien.

138 $\frac{1}{4}$ 

**Fu-chia-tien** (P'o-chia-tie), 30 houses, some of stone, on r. A *likin* station and a ferry. Undulating country near l. bank, with some reeds. Country to N. much flooded, with many villages.

138 $\frac{3}{4}$ 

*Wuhu Hills*, 200 ft. high, begin 2 miles to N. and run SW.

139

Embankment bends S. for a short way with river, another road (a short cut) leads across the fields due W. past **T'ang-pao-ts'un** (30 houses), 600 yds. off. Embankment now 4-8 ft. wide. Ferry 200 yds. further on. River 80-100 yds. wide.

140 $\frac{1}{4}$ 

Short cut rejoins embankment. Cross single-arch stone bridge over side-creek. Four-storied oil works (*T'ang-hsin-kung-so*) and chimney on r. Paved street and houses begin. River deep and 60 yds. wide. 12-ft banks. Towing-path for short way along r.

miles

- 141 $\frac{1}{4}$       Railway bridge across river, here 50 yds. wide.
- 141 $\frac{3}{4}$       **WUHU**, P. T. RS., small walled city with important suburbs extending to the banks of the Yangtse. Bridge of boats opposite South Gate (100 yds. to N.).
- 143      Bridge across river. Suburb mainly on r. (See Route 18.)
- 143 $\frac{1}{2}$       The *Kuei-hsi River* (Yang-ki Ho, also called Wuhu Creek by foreigners) joins the Yangtse, which is a mile broad at this point. Pagoda near the junction.

## ROUTE 17

## CHINKIANG TO NANKING

*Authorities*: Richthofen, vol. iii, 1912; A. H. Hilton-Johnson, Dec. 1906-Jan. 1907; War Office MS. Map of S. Kiangsu, 1907.

General direction W. The most direct route is by steamer on the Yangtse (see Chap. VII), or by the Shanghai-Nanking Railway (distance by rail 43 miles).

In addition there are two land routes:

## (A) VIA KAOTZE (42 miles)

This is the direct land route. It is generally straight and level, and is classed by natives as a main road. Its nature varies from a cobble-paved track 4 ft. wide to a beaten mud footpath. It is passable for animals and wheelbarrows (although infantry would often have to move in single file), and, except after heavy rain, the quality of the road is good throughout. The passage of guns would always be attended with much difficulty, and would necessitate the frequent employment of spare teams and advanced working parties.

The country is hilly. For about 25 miles the route lies along the foot of hills on the left, the country on the right between the road and the south bank of the Yangtse River being mostly low-lying paddy swamp, impassable except by footpaths. After 25 miles the country is more broken. It is

well wooded on the hills, and there is much uncultivated grassland. Most of the hills are covered with dense prickly bushes or very long grass; except along difficult paths they are almost impassable. There are very few creeks, and beyond Shih-p'u-ch'iao the country is mostly dry and passable for mounted troops. Water is plentiful, and troops could camp practically anywhere along the route. Up to Ch'a-lu-k'ou the Shanghai-Nanking Ry. follows the route at a distance of a few hundred yards, lying chiefly on the right of the road until near Shih-p'u-ch'iao where it crosses to the left.

A creek from Chinkiang runs westward almost parallel to the road for some 30 miles, then turns into the Yangtse River. It is navigable in summer but very shallow in winter.

For remarks on transport and on the probable amount of the various classes available see Chap. V.

miles

- 0      **CHINKIANG**, P. T. RS. (see *Gazetteer*). Route leaves from *West Gate* through crowded W. suburb for  $\frac{3}{4}$  mile to **British Concession**, thence SW., crossing Shanghai-Nanking Ry. line at mile  $1\frac{1}{4}$ .

An alternative route to avoid W. suburb, is from neighbourhood of SW. corner of city along railway embankment.

Thence route follows l. of railway, between line and low wooded hills.

- $4\frac{3}{4}$       **Êrh-shih-li-p'u**, situated on a creek to N. of railway.

- $8\frac{3}{4}$       **Kaotze**, P. T. RS., market town (800 houses).

Before entering the town the road crosses a stream flowing S.-N. into the Yangtse River. At high tide it is navigable from the Yangtse to a stone bridge  $1\frac{1}{2}$  mile S. of the town.

The railway station is NW. of the town.

- $11\frac{1}{2}$       **T'an-chu-chên** (T'an-t'u-chên), RS., market town (250 houses).

- $12\frac{3}{4}$       **Kiaotow Ku** (Ch'iao-t'ou), P., market town (250 houses).

miles

15½

**Siashukai** (Hsia-chu-chieh), P. RS., market town (200 houses) with wooded hills N. and S. of it, giving good camping-grounds. Station about 1 mile W. of town.

General direction W. Route keeps between railway on r. and hills on l.

16¾

**Hsi-chia-chuang**, ¼ mile S. on a creek.

18½

**Tsangtow**, P., market town (400 houses).

20½

**Shih-liu-yüan**.

23½

**Lungtan Ku**, P. T. RS., market town (500 houses) at the foot of *Lung Shan*. From the town tracks follow both sides of creek, that on N. side is a path 2 to 3 ft. wide on top of a bank 10 to 20 ft. high, with marshy country on r; it is better for men, animals, and wheelbarrows than path on S. side of creek, but is too narrow for double-track vehicles. Creek is crossed by a bridge at the town.

An alternative route from here goes SW. through Tungyang Ku, P., a market town of 500 houses, then W. via Yang-chuang and other villages, joining main route at Kan-chia-hsiang. It is about 1 mile shorter than main route, but not passable for vehicles other than wheelbarrows.

Beyond Lungtan Ku a stream flows S.-N. into the creek; it is navigable for small boats as far as Tungyang Ku.

26

**Hua-chia-ts'un**.

27½

**Chihshantu** (Shih-shan-tu), P., market town (100 houses). Route passes at the foot of the *Hsi-hsia Shan* (Se-kea Shan), about 900 ft. high. To the S. of it, i.e. about two miles from the r. bank of the Yangtse, is Tan Shan (Single-tree or Lone-tree Hill), a landmark for ships coming up the Yangtse River. On this hill there was formerly a single tree, hence its name. A fine view, extending as far as Chinkiang in the east and Nanking in the W., is obtained.

miles

28 $\frac{3}{4}$  **Lone-tree Hill**, RS. Route crosses to the r. of railway line, and continues on that side as far as Ch'a-lu-k'ou.

29 $\frac{3}{4}$  **Shih-p'u-ch'iao**, market town (300 houses) on the banks of a creek 15 yds. wide.

General direction, W. Route lies on top of bank for nearly 1 mile, then on ground-level passing Yü-ssü-miao temple on l.

31 $\frac{3}{4}$  **Kan-chia-hsiang**, market town (150 houses).

35 $\frac{1}{4}$  **Yao-fang-mên**, market town (150 houses).

37 $\frac{1}{4}$  **Ch'a-lu-k'ou**, market town (100 houses).

39 $\frac{1}{4}$  **Chiang-wang-miao**. Before reaching this place, route crosses again to l. of railway.

42 **NANKING**, P. T. RS. (see *Gazetteer*). Route enters through T'ai-p'ing Mên, a gate in the NE. wall.

#### (B) VIA TANYANG (about 70 miles)

This is an indirect land route. It is generally straight and level, and is classed by natives as a main road. Its nature varies from a track 5 to 15 ft. wide, down to a footpath of beaten mud. It is intermittently paved with uneven stone flags of irregular shape and size; these are roughly laid in the centre of the track, and are much broken and rutted from long usage, so that they tend to reduce all normal rates of progress. It is passable throughout for animals and wheelbarrows, although infantry would often be forced to move in single file. The passage of guns would be attended with much difficulty and would necessitate the frequent use of spare teams and advanced working parties.

The country is hilly for the first 7 miles, then for 15 miles is a flat, open plain, with an extensive view in all directions; it then becomes undulating, forming a long succession of valleys running N. and S.; near Nanking it becomes more

broken and hilly. It is sparsely wooded and not thickly populated ; in the plains it is highly cultivated, but elsewhere much grassland exists. There are comparatively few creeks, and, generally speaking, the land is dry and passable for mounted troops. Pond water is plentiful. Troops could camp almost anywhere along the route.

miles

0 **CHINKIANG**, P. T. RS. (see *Gazetteer*). General direction, SSE. Route leaves from *South Gate* and lies through S. suburb  $\frac{1}{2}$  mile. It is paved for the first  $3\frac{1}{4}$  miles.

$1\frac{1}{4}$  **Wu-fêng-k'ou**.

$2\frac{1}{4}$  Route crosses the railway.

$3\frac{1}{4}$  **Kuan-t'ang-ch'iao**, town (300 houses). Route follows a mud track.

The paved road goes SSW. to Mao-san, 40 miles distant.

$7\frac{1}{2}$  **Lu-ts'un**.

8 **Fang-mien**.

$9\frac{3}{4}$  **Ma-ling**, market town (100 houses).

14 **Ting-ko-chuang**, town (200 houses).

A fair by-road impassable for wheeled vehicles goes W. to Po-t'u.

Route turns l.

15 **Hu-t'ou-chên**, market town (100 houses), with forge. From here route follows a paved track 10 yds. wide with *Lien Hu* (Lieh Wu, a lake, also called Tanyang Hu) on l.

$16\frac{1}{4}$  **TANYANG**, P. T. RS. (see *Gazetteer*).

The city can also be reached by the Shanghai-Nanking Ry. or by the Grand Canal (see Route 1 A).

Route follows NW. wall of city, then turns r. along road known as the *Ching-lu*.

$24\frac{1}{4}$  **Ch'ün-chou** (or Ch'ü-tei), scattered market town of 500 houses.

? **Ting-chuang-p'u**, town (700 houses).

? **Têng-tien** (Tên-ti), town (200 houses).



miles

- 29 **Po-t'u**, scattered market town (400 houses).  
Route lies over open undulating country.
- 33½ **Hsing-hsiang** (or Hên-ya), market town (250 houses).  
From here the main paved road continues to Küyung with no important places *en route*. The road is bad for both men and transport, and particularly for wheelbarrows.  
The by-route lying to the N. of the main route via **Tsa-ch'i** (250 houses), **Ch'ien-ma-ling** (100 houses), and **Hsia-tien** (100 houses) is therefore recommended except for vehicles other than barrows, or after heavy rain. It consists of a beaten mud footpath, 2 to 3 ft. wide, passable for men, animals, and barrows.
- 43 **KÜYUNG**, P. (see *Gazetteer*).  
Route leaves by *West Gate*.
- 49½ **Tukiao**, P., market town (2,000 houses).
- 53½ **Soshu**, P., market town (500 houses).
- 58¼ **Hsiung-huang-chên**, market town (400 houses).  
General direction, NW.
- 62¼ **Shang-fêng** (called Shan-shui-kuan on French and German maps), market town (400 houses).
- 64¾ **Kaokiaomen**, P., market town (400 houses).
- 70 **NANKING**, P. T. RS. (see *Gazetteer*). Route enters by the *T'ung-chi Mên*, a gate in angle of SE. wall.

## ROUTE 18

NANKING TO WUHU (ANHWEI) (about 53 miles)

*Authorities*: French Map, 1901; German Map, 1901; Admiralty Chart No. 2678, Feb. 1915; Military Report on Anhwei, 1905.

General direction SSW. The most direct route is by steamer up the Yangtse River (see chapter on Yangtse River). In the near future Wuhu will be connected by rail with Nanking, either directly or more probably via Ningkwofu.

(Branch-line, Wuhu–Ningkwofu, partly constructed; main line, Nanking–Ningkwofu, surveyed 1914. For details see Chap. IX, railway No. XIII.)

The main land route follows ridges of hills which run almost parallel to the bank of the Yangtse River as far as Tsaishih (mile 33). The country W. of the hills is liable to be inundated in summer. Beyond Taiping An (mile 41) a range of hills 1,500 ft. high runs in a SE. direction, some 5 miles inshore.

miles  
(approx.)

- |     |  |
|-----|--|
| 0   | <b>NANKING</b> , P. T. RS. (see <i>Gazetteer</i> ). Route leaves by the <i>South Gate</i> .  |
| 6   | <b>Sishankiao</b> , P.   |
| 8   | <b>Tashengkwan</b> , P., to the r., at the mouth of a creek.   |
| 12  | <b>Pankiao Ku</b> , P., village on a creek.  |
|     | <b>Ta-êrh-chi</b> to r. on the bank of the Yangtse.  |
| 19  | <b>Chiang-ning-ssü</b> .   |
| 21½ | <b>Shou-lung-t'ing</b> (Fr. map). Route crosses the Kiangsu-Anhwei boundary.   |
| 24  | <b>T'ung-ching</b> .   |
| 33  | <b>Tsaishih</b> , P., a walled town, situated on a low hill about 1,500 yds. from the Yangtse.   |
| 41  | <b>TAIPING AN</b> , P. T. A prefectural city. Its population consists of 6,100 families. The wall is in very bad repair, and in many places scarcely exists. There are 13 <i>yamên</i> , one Protestant and one Roman Catholic Mission.  |
|     | After traversing the town, the main road passes over two large boat bridges of 18 boats each, across the <i>Taiping River</i> (or Shuiyang Ho), which here joins the Yangtse. This creek is 220 ft. wide and 20 to 30 ft. deep at this point, but soon widens to nearly ¼ mile. Swampy ground to the l. of road. |
| 45½ | <b>Ta-ch'iao</b> (Fr. and Ger. maps).  |
| 48  | <b>Ta-chêng-pu</b> (Fr. map).  |

miles

49

**Tao-yang** (Fr. and Ger. maps).

53

**WUHU**, P. T. RS., a well-known Treaty Port. Population estimated at 100,000. It is a busy and thriving town, and is admirably located for trade, owing to the excellence of its water communication. Important rice exporting dépôt (see Route 16).

# NORTH KIANGSU

## ROUTE 19

### GRAND CANAL

*Authorities:* Chinese Maps; Gandar, *Le Canal Impérial*, 1894; W. R. Carles, *The Grand Canal*, 1900; Elg, *Kaiser Kanal*, 1903; Stenz, *Kaiser Kanal*, 1903; A. A. S. Barnes, 1904; A. H. Hilton-Johnson, March, 1908 (chief authority for Section I); China Maritime Customs Trade Reports, 1900-15; Richthofen, vol. iii, 1912; Map of the Rivers, Lakes, and Canals of N. Kiangsu and N. Anhui, Survey Students of N. Kiangsu, Oct. 1911; Imp. Japanese Rys. Official Guide, vol. iv, 1915.

For general description of Grand Canal see above, Chap. VIII.

#### (1) CHINKIANG TO TSINGKIANGPU (111½ miles)

Except across the Shaopo Lake, there is an unbroken path throughout on top of the bank, and towing is always possible. North of Liu-cha it is on the east bank, and affords a fair road, averaging 12 ft. wide, and passable for infantry, cavalry, animals, wheelbarrows, and bicycles. Wheeled artillery and carts could also pass if an advanced party of engineers were provided to make a few of the bad places practicable, and to widen slightly numerous small bridges over stone masonry flood-gates or spillways, usually 6 ft. (at most 10 ft.) wide in gap. South of the Shaopo Lake the path lies on the west bank only for 4 miles, then on both as far as Kwachow. Generally speaking, it is passable for infantry, animals, and wheelbarrows only, and not for double-track wheeled vehicles.

Large supplies of various kinds are obtainable at cities and market towns *en route*.

miles

0 •

**CHINKIANG**, P. T. RS., Treaty Port (see *Gazetteer*).  
The Yangtse is crossed in a NW. direction.

3 $\frac{1}{4}$ 

**KWACHOW**, P. T., town of 2,000 houses, chiefly on l. bank of canal. Great part of the old town washed away by the Yangtse. Mouth of canal accessible at all stages of the tide. Canal much congested with boats.

6 $\frac{3}{4}$ 

**Pa-li-p'u**, village of 80 houses, on both banks.

10 $\frac{1}{4}$ 

**San-ch'a-ho** and **Yang-tzü-ch'iao**, villages on both banks, containing together 150 houses. At west end of villages is a very large and conspicuous temple.

From here a river goes W. to Shiherhwei, P. T., a large market town on the Yangtse, about 12 miles distant. Another branch of the river goes to Icheng (see Route 36 C).

13 $\frac{3}{4}$ 

**Hsin-ho-wan** (20 houses). Route bends NE.

14 $\frac{1}{4}$ 

**YANGCHOW**, P. T., important city on W. bank (see *Gazetteer*). The canal approaches the *South Gate*, follows the south and east walls, passing three gates, the most important of which is the Ch'ao-kuan Mên, near the SE. corner, where the steam-launch jetties are situated. Canal much congested with boat traffic.

16 $\frac{1}{2}$ 

*East Gate* of Yangchow. Up to this point a strong current is running S. (3 to 4 miles an hour).

17 $\frac{3}{4}$ 

Pontoon bridge. Barracks on east, opposite suburb of Yangchow on west.

19

**Yen-t'ing-tzü** (10 houses), on l.

20 $\frac{3}{4}$ 

**Wantowchen**, P., town (100 houses) on east. Here canal turns sharply N.

21 $\frac{1}{4}$ 

**T'ou-yao** (30 houses), on r.

22 $\frac{1}{4}$ 

**Wa-yao-p'u**, village (60 houses) on both banks. The canal becomes a natural river without embankments and passes through the *Shaopo Lake*. Water 3 feet deep in winter.

24 $\frac{1}{2}$ 

**Ch'ên-chia-chuang** (70 houses), on l.

26 $\frac{1}{4}$ 

**Liu-cha**, village (80 houses) on east.

miles

Just below the village is a river going east to Taiehow Ku (see Route 22).

28 $\frac{3}{4}$  **SHAPO**, P.T., town (1,500 houses) stretching for 1 $\frac{1}{2}$  miles chiefly along the east bank, which is here stone-faced. (According to accounts of 1910 the west bank of canal north of Shaopo had fallen into the lake, and the east bank was threatened with the same fate.)

30 **Shêng-chia-têng** (10 houses), on r.

31 $\frac{1}{4}$  **Ch'iao-kuan-pa**, village (100 houses) on both banks. There are two openings into the lake, which at this point draws nearer to the bank.

31 $\frac{3}{4}$  **Hu-hua-t'ang** (20 houses), on r.

35 **T'u-wan** (10 houses), on r.

36 $\frac{1}{4}$  **Lu-chên-so**, village (120 houses) on east bank.

41 **Êrh-shih-li-p'u**, village (100 houses) on both banks.

41 $\frac{3}{4}$  **Ch'ê-lo-chên** (or Ch'ê-lu), town (200 houses) on east. (Note.—Gandar and French Map divide this town into South and North : Nan-ch'ê-lu and Pei-ch'ê-lu.)

43 $\frac{1}{4}$  **Pa-li-sung** (30 houses) on r.

44 $\frac{1}{2}$  **Wu-li-pa**, village (50 houses) on east.

45 $\frac{3}{4}$  **KAUYUCHOW**, P. T. (see *Gazetteer*). South Gate approached through an extensive suburb, chief business part of the city. Opposite the SW. corner of the city wall there are openings into the Kaoyu Lake on the left. Through these boats can reach the *Huai River* in high-water season (see Route 35). At this point the current sometimes flows north. The west wall lies for  $\frac{3}{4}$  mile parallel to the canal and about 60 yds. from bank.

46 $\frac{1}{4}$  *West Gate* of Kaoyuchow. Suburbs extend north for about 2 miles.

48 **Tan-ch'uan-lou** (20 houses), on r.

52 **Sha-chia-kou** (30 houses), on r.

53 $\frac{1}{2}$  **Ch'ing-shui-t'an**, village (60 houses).

55 $\frac{1}{4}$  **Ma-p'êng-wan**, village (100 houses). There is an opening into the Kaoyu Lake (see Route 35).

miles

- 56½ **Chang-chia-kou** (25 houses), on r.
- 58½ **Liu-man-cha**, village (150 houses) on E. There is another opening into the lake.
- 60½ **T'an-hua-tung** (40 houses), on r.
- 63½ **Kaishow** (Chieh-shou), P., town (200 houses) on both banks. Further N. the canal is divided from the waters of the Paoying Lake only by its W. bank.
- 64½ **Tzū-chin-cha** (40 houses), on r.
- 65½ **Ch'i-li-cha** (20 houses), on l.
- 67½ **Kang-ch'iao** (30 houses), on r.
- 70 **Fanshui**, P., town (500 houses) on both banks.
- 71 **Wu-li-p'u** (50 houses), on l.
- 72½ **Ta-wa-tien** (60 houses), on both banks.
- 73½ **Hsiao-wa-tien** (60 houses), on both banks.
- 75 **Liu-chia-pao**, village (100 houses) on both banks.
- 77 **Nan-yao** (30 houses), on r.
- 78½ **Nancha** (20 houses), P., on l.
- 78½ **Pai-t'ien-p'u** (40 houses), on both banks.
- 80½ **PAOYING**, P. T., important city on east bank (see *Gazetteer*). *Great South Gate* approached through extensive suburb. On west bank mud-flats of the Paoying Lake end here.
- 80½ *Small South Gate*, on east bank. Wall of city lies parallel to canal, and about 50 yds. from it.
- 81 *West Gate*. Important suburbs spread to the N. on both banks, about 500 houses.
- 84 **Pa-ch'ien-chên** (50 houses), on l.
- 86½ **Huang-p'u-k'ou**, village (40 houses) on r.
- 88 **Shuang-han-tung**.
- 89½ **Ta-ching-ho**, village (100 houses).
- 92½ **Pingkiao**, P., village (200 houses).
- 93½ **San-pao**, village (200 houses).
- 96½ **Erh-pao**, village (100 houses).
- 98½ **Shêng-chia-chuang** (40 houses), on l.
- 98½ **Sha-chia-chuang** (50 houses), on l.
- 99½ **T'ou-pao** (10 houses), on r.

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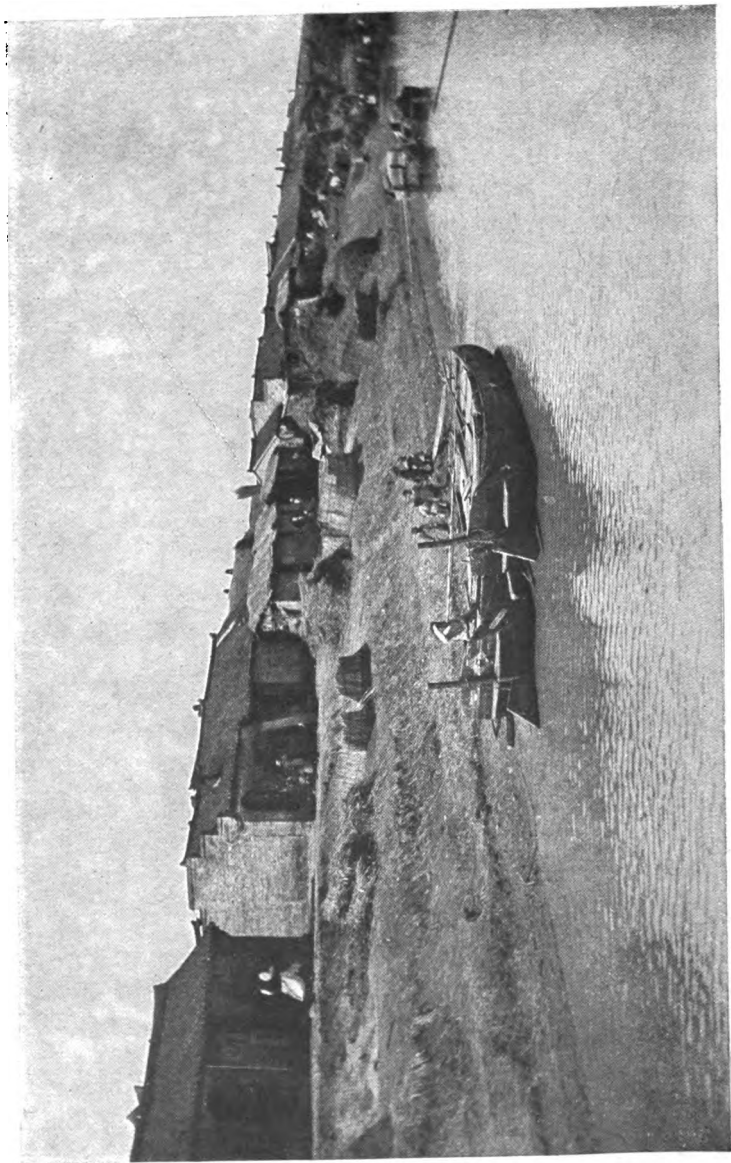
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TYPICAL MARKET TOWN ON THE GRAND CANAL, NORTH OF CHINKIANG

miles

- 101      **Yang-chia-miao**, village (150 houses) on both banks.
- 102½    **HWAIAUFU**, P. T., walled city on east bank (see *Gazetteer*). West wall lies parallel to canal and about 100 yds. from it. Pontoon bridge here. Beyond the walls extensive suburb known as **Hu-hsia** (1,000 houses).  
Near the city important creeks leave canal on east, leading to Yencheng Ku (see Route 25 B), and to Fowning (see Route 26 B).
- 106½    **Wu-ch'ang-hu** (80 houses), on both banks.
- 107½    **Huai-kuan**, town (500 houses) on east bank. Residence of the Hwaiianfu Tao-t'ai (? Tao-yin), who also has a *yamên* at Tsingkiangpu.
- 110½    **Hsia-t'ang**, village (50 houses) on both banks.
- 111½    **TSINGKIANGPU**, P. T. RS. (see *Gazetteer*). Boats pass through the mud walls of city and under a wooden pile bridge. They stop below the first lock (Ch'ing-chiang-chêng-cha), which is built of stone, with a bridge over it, and is situated about 200 yds. east of the NE. corner of **Tsingho** (opposite Tsingkiangpu).

(2) TSINGKIANGPU to TSINING (SHANTUNG)

(746 li, say 224 miles)

Less important than Section 1. The chief obstacles to navigation are: (a) the locks above Tsingkiangpu; (b) the scarcity of water during the drier season; (c) the silting up of the channel (much sand being brought from the Shantung mountains by the Tzū Ho, the Wên Ho, and many torrents); (d) the general state of neglect of embankments and locks. Some important repairs were apparently made in 1908.

There are several lakes and morasses bordering the canal, of which the line of demarcation is at times so confused that boats can travel across them leaving the line of the canal.

From Tsingkiangpu to Sutsien the canal runs parallel to the old bed of the Yellow River. Just below Taierhchwang it passes into the province of Shantung. Below Hanchwang it draws again very near the boundary of Kiangsu and follows it for several miles.

The Tsingkiangpu-Süchowfu Railway turns N. to Sipa, then W. to Yangchwang Ku on the Grand Canal (distance  $9\frac{1}{2}$  miles), where a bridge will ultimately be built.

In 1912, during the short time the line was operated, steam ferries ran in conjunction with the railway, and conveyed passengers and goods across the Grand Canal (see Chap. IX, railway No. X).

Up to mile 108 distances have been measured on North Kiangsu survey map. Beyond mile 108 distances may be less nearly approximate.

li	miles (approx.)	
0	0	<b>TSINGKIANGPU</b> , P. T. RS. To continue their journey north, boats have to pass two pontoon bridges and be hauled over four successive locks (each with an opening of about 22 ft.): Ch'ing-chiang-chên-cha, Lao-êrh-cha (or Fu-hsing-cha), T'ung-chi-cha, and—
15	$6\frac{1}{2}$	<i>T'ien-fei-cha</i> (or Hui-chi-cha), the most difficult of the four. The latter chiefly serves to break the strong current caused by the waters of the Huai Ho.
30	8	<b>Matowchen Ku</b> , P. The waters of the Huai River enter the canal from the south via Hungtsê Lake. The latter can be reached by boat from the canal (see Route 35).
		Canal bends N. at sharp angle.
	12	Canal bends W. A stream continues NE. through the middle of the old bed of the Yellow River.
55	$12\frac{1}{2}$	<b>Yangchwang Ku</b> , P. RS., on r. (Distance by rail from Tsingkiangpu, $9\frac{1}{2}$ miles.) An impor-

li	miles (approx.)	
		tant railway bridge will cross the canal at this point.
	12 $\frac{3}{4}$	<i>Yen-ho-cha</i> . A lock separates the <i>Yen Ho</i> (No. 1) from the canal. The <i>Yen Ho</i> (No. 1) goes to Haichow (see Route 28 A).
	13	Canal bends S.
	14	Canal bends WSW.
	16	<i>Shuang-chin-cha</i> . The <i>Yen Ho</i> (No. 1) ends here ; a dam separates it from the Grand Canal.
	17 $\frac{1}{2}$	<b>Tou-pan-chi</b> , on r. <b>Yen-ho-k'ou</b> on opposite bank.
	20	<b>Kao-chia-wan</b> , 2 miles S. of l. bank.
	22	<b>Yü-kung-pa</b> , 1 $\frac{1}{2}$ miles SW. Canal bends NW.
	23 $\frac{1}{2}$	<b>Shih-chia-ta-huang</b> , 1 $\frac{1}{2}$ miles SW.
	25 $\frac{3}{4}$	<b>San-yi-pa</b> , on r.
	28 $\frac{1}{4}$	<b>Hu-chia-wan</b> , 1 $\frac{1}{2}$ miles SW.
	28 $\frac{3}{4}$	<b>Shih-li-p'u</b> , on r. Canal bends W.
	32 $\frac{1}{2}$	<b>T'ao-yüan-hsien</b> , walled town about 1 mile SW.
95	33	<b>Chunghing</b> , P. T., on r.
	36	<b>Yang-kung</b> , on l.
	37	Canal bends NW.
	41 $\frac{1}{2}$	<b>Ch'ên-chia-yü</b> , on l.
	43 $\frac{1}{2}$	<b>Ta-p'ing-chuang</b> , on l.
	44	Canal bends W.
	45 $\frac{1}{2}$	Canal bends SW.
	47 $\frac{1}{2}$	<b>Chêng-chia-lou</b> . Sharp bend WNW.
		<b>Yanghwatsi</b> , P., some distance away on the E.
135	51 $\frac{1}{2}$	<b>Liu-lao-chien</b> . The <i>Liu-t'ang Ho</i> , a creek, cut off from the canal by a mud-bank, goes E. to Wu-chang-ho on the <i>Yen Ho</i> (No. 1) (see Route 28 A, mile 37 $\frac{3}{4}$ ).
	54	Canal bends WSW. <b>Ch'i-li-pei</b> , away on l.
	55 $\frac{1}{2}$	Canal bends WNW.
	57 $\frac{1}{4}$	<b>Pan-pu-tien</b> , on r.

li	miles (approx.)	
	59½	<b>Hsiao-yang-chuang</b> , on r.; <b>Chang-chia-yü</b> , about 2 miles on l.
200	64½	<b>SUTSIEN</b> , P. T., a walled city on l., with a glass factory, a Protestant mission, and a Catholic (Jesuit) mission. Canal bends N. The main road to Peking via Ichowfu leaves the canal and continues NNE. (see Route 32 A). The road from Tsingkiangpu to Süchowfu crosses the canal, and from here runs parallel to the W. bank (see Route 33 B). Numerous swamps, especially along the E. bank.
	66	Canal bends W.
	66½	<b>Yuëh-hsü-ch'ang</b> , on r.
	70½	<b>Hsin-cha-tzü</b> , on r. Canal winds.
	72	<b>Chih-ho-k'ou</b> , on l.
	78	<b>Tsaoho Ku</b> , P. Canal bends NNW.
	81½	<b>Chung-cha</b> , on r.
	82¾	<b>Li-yün-cha</b> , on r. Canal bends NW.
	84½	<b>Min-pien-cha</b> , on r.
290	88	<b>Yaowan</b> , P. T. Near the junction of the <i>Yi Ho</i> with the Grand Canal.
	96	Canal bends NNW.
	97	Canal bends WNW.
	98	Canal bends NW.
	100	Canal bends WSW.
	101	Canal bends NNW.
	103½	<i>Lai-tao Ho</i> joins the canal on l.
	104	<b>Hsü-t'ang-chi</b> on r. at the junction of a branch of the <i>Yi Ho</i> with the canal.
	106½	A third branch of the <i>Yi Ho</i> joins the Grand Canal on r. after passing through the town of <i>Pei-chou</i> (distance by water, 7 miles).
350	(?)	<b>Lao-lung-t'an-chên</b> .
370	111	<b>Chia-k'ou-chên</b> .
385	115½	<b>Ku-liang-wang-ch'êng</b> (Liang-wang-ch'êng).

li	miles (approx.)	
	117	<b>Huang-lin-chuang</b> , on r. The canal passes into the Province of Shantung.
400	120	<b>Taierhchwang</b> , P. T. RS., terminus of a colliery railway connecting canal with Yih sien coal-fields and with Lincheng Sung on the Tientsin-Pukow line (see Route 31 A, sect. 3, mile 130 $\frac{1}{2}$ , and Chap. IX, railway No. VIII). At this point the canal cuts through the lower spurs of Shantung mountains. The torrents which feed it are silting up the bed. Numerous locks, generally in bad condition.
418	125 $\frac{1}{2}$	<b>Hou-ch'ien-cha</b> (Hou-shan-cha).
428	128 $\frac{1}{2}$	<b>Tun-chuang-cha</b> .
436	131	<b>Ting-miao-cha</b> .
448	134 $\frac{1}{2}$	<b>Wan-nien-cha</b> .
458	137 $\frac{1}{2}$	<b>Chang-chuang-cha</b> .
466	140	<b>Liu-li-cha</b> .
472	141 $\frac{1}{2}$	<b>Tê-shêng-cha</b> .
496 <sup>1</sup>	149	<b>HANCHWANG</b> , P. T. RS., large village of fisher-folk and traders. Copper mines in neighbourhood. Just before reaching the village the canal, which for the last few miles has been skirting the border of Kiangsu, is crossed by the Tientsin-Pukow Ry. At Hanchwang the canal enters again a series of lakes and swamps spreading between low undulating hills. The chief of these lakes is <i>Wei-shan Hu</i> (more usually called <i>Yi-shan Hu</i> , about 60 miles in circumference). A strong dam separates it from the canal. The main entrance to it from the canal is near Hanchwang. Boats often prefer this route

Instead of these localities Gandar mentions *Chü-liang-chiao-cha* and *Hsin-cha*.

<sup>1</sup> According to Gandar the distance is only 478 li, but he certainly underrated the distance from Taierhchwang to Hanchwang, putting it at 78 li. Stenz gives 96 li, which agrees with the War Office Shantung map.

li	miles (approx.)	
		and rejoin the canal again at Ma-chia-k'ou, but the passage from Wei-shan Hu to Chao-yang Hu is difficult except in high water, as the channel is overgrown with reeds.
521	156½	<b>Chan-ho-cha.</b> (The localities along the Wei-shan Lake are very doubtful.
		<b>Sha-kou-ying.</b> The authorities followed here
546	164	<b>Pêng-kou.</b> are Stenz and Chinese maps.
		Gandar mentions <i>Ch'ih-shan</i> .
(?)		<i>Lin-shan</i> ?
566 <sup>1</sup>	170	<b>Siachen</b> , P., market village of some importance at the extremity of the Wei-shan Lake.
572	171½	<i>Yang-chuang.</i>
(?)		<i>Hsieh-ho-pa.</i>
(?)		<i>Ta-wang-miao.</i>
596 <sup>2</sup>	179	<b>Chu-mei-cha</b> (Sung-chia-cha). Here the canal enters into the Chao-yang Lake.
604	181	<i>Hsin-chuang-ch'iao.</i> The boundary line of Kiangsu runs due W. ; the canal ceases to skirt it but continues NNW.
608	182½	<b>Hsü-chia-ying</b> (Shih-hui-chiao on English map).
612	183½	<b>Fan-chia-k'ou</b> (or Wan ?).
620	186	<b>Ma-chia-k'ou.</b> A bridge crosses Chao-yang Lake dividing it from Tu-shan Lake. The latter is very shallow and often quite dry. Parts of it are being reclaimed. Boats which left the canal at Hanchwang to sail through the Wei-shan and Chao-yang lakes rejoin it here.
(?)		<i>Mêng-chia-k'ou.</i>
(?)		<i>Shih-chia-k'ou.</i>
(?)		<b>Ch'iao-t'ou-chi.</b>

<sup>1</sup> According to Gandar the distance between Hanchwang and Siachen is only 50 li [instead of 70].

<sup>2</sup> Siachen to Chu-mei-cha is 44 li according to Gandar ; we have followed Stenz.

li	miles (approx.)	
640	192	<i>Hsing-chuang-cha.</i>
652	195½	<i>Li-chien-cha.</i>
670 <sup>1</sup>	201	<b>Nanyangchen</b> , P., village with market (especially for fish, fowls, straw-braid).
682	204½	<b>Tsao-lin-cha.</b>
690	207	<b>Lu-ch'iao.</b>
694	208	<i>Shih-chia-chuang-cha.</i>
699 <sup>2</sup>	209½	<b>Chung-chia-ch'ien-cha.</b>
705	211½	<b>Hsin-cha.</b>
713	214	<i>Hsin-tien-cha.</i>
731 <sup>3</sup>	219½	<b>Shih-fo-cha.</b>
739	222	<i>Chao-ts'un-cha</i> (Chao-chuang-cha).
(?)		<i>Tsai-ch'êng-cha.</i>
746	224	<b>TSINING</b> , P. T. R.S., important trading centre, connected by a branch railway (20 miles) with Yenchowfu, on the Tientsin-Pukow main line. Many bridges cross the canal. Goods brought overland from Tsingkiangpu often reshipped here. Important locks (Fên-shui-cha). From Tsining the canal, after making a loop SW., continues NNE. as far as <b>An-shan</b> (about 140 li or 42 miles from Tsining). From there to the Yellow River the old canal is usually dry, but a fine channel will be found through the P'ò Ho, which enables the largest boats of the Yellow River to reach An-shan, and places the latter (an important market village for cereals) within easy reach of Tsinan, the Tientsin-Pukow Railway, and the Shantung Railway (distance from An-shan to Tsinan 66 miles as the crow flies,

<sup>1</sup> According to War Office map Nanyangchen is not so far N. Measured on the map the distances are: Ma-chia-k'ou-Nanyangchen 13 miles (against 50 li); Nanyangchen-Lu-ch'iao-cha 9 miles (against 20 li).

<sup>2</sup> Shih-chia-chuang-cha to Chung-chia-ch'ien is 10 li according to Gandar.

<sup>3</sup> Hsin-tien-cha to Shih-fo-cha 10 li (instead of 18), according to Gandar.



li miles  
(approx.)

actual journey considerably longer owing to winding course of Yellow River).

For details of the route beyond Tsining see Report on Shantung.

## ROUTE 20

### TUNGCHOW TO THE YANGTSE AND THE SEA-COAST

*Authorities* : G. E. Pereira, Feb. 1908 (Route A); H. Davies, April, 1909 (Route C); Admiralty Chart 2809, Dec. 1914; Yangtse Kiang Pilot, 1914.

#### (A) LAO-LU-CHING-CHIANG TO TUNGCHOW (5½ miles)

General direction N.

(a) *Water route*.—Yangtse steamers no longer drop passengers for Tungchow off Lao-lu-ching-chiang, but call at the mouth of the **T'ien-shêng-chiang** (2¼ miles further up the north bank of the Yangtse), where a landing-stage with two hulks has been provided. The red brick custom-house with its clock-tower is conspicuous from the Yangtse. A navigable creek leads to Tungchow, about 5 miles inland (distance by creek about 8 miles).

(b) *Land route*.—The road is fairly good, 8 ft. to 15 ft. wide; liable to become heavy after rain. It is much used by wheelbarrows. Wooden trestle bridges are thrown across the many creeks encountered, and are wide enough for wheelbarrow traffic. The country is flat, much cultivated, and intersected by creeks and long trenches full of water, which do not as a rule connect with one another. The *Lang Shan*, with a conspicuous pagoda, stands out to the SE. Owing to the number of trees and houses the view is everywhere much restricted. Houses are much dispersed, and not grouped into villages. The chief means of transport are wheelbarrows.

Between Lao-lu-ching-chiang and T'ien-shêng-chiang, about  $1\frac{1}{2}$  miles farther up the river, also on the north bank, is Hsin-lu-ching-chiang, a hamlet of about 10 huts, where there is a narrow creek running inland for a mile or so.

miles

- |                |   |
|----------------|---|
| 0              | <b>Lao-lu-ching-chiang.</b> About 20 houses. Direction N. along fairly good 8-ft. road, used by wheelbarrows. Country flat and dotted with houses, surrounded by trees, or under cultivation. Small creek, 6 ft. wide, 3 ft. deep on r., crossed by several wooden trestle bridges. |
| $1\frac{1}{2}$ | Direction E., crossing creek by a wooden trestle bridge. Trenches filled with water, 20 ft. wide, on either side of road for $\frac{3}{4}$ mile.  |
| $2\frac{1}{2}$ | <b>Lang-chia-chü</b> (40 scattered houses). In many places, a trench with water on one or other side of the road.   |
| 3              | <b>T'u-sü-tzü</b> (10 houses). Road turns NE.; 15 ft. wide for rest of the way.   |
| 4              | <i>Tsao-wang-t'ing</i> (temple).  |
| $4\frac{3}{4}$ | Under a gateway, through narrow and crowded west suburb.  |
| $5\frac{1}{4}$ | Stone single-arch bridge, 18 yds. long.   |
| $5\frac{3}{4}$ | <b>TUNGCHOW</b> , P. T. (see <i>Gazetteer</i> ). Plank bridge over small channel of river to <i>West Gate</i> .   |

(B) HAIMENTING TO TUNGCHOW (18 miles crow-fly)

General direction NW.

**Haimenting**, P. T., in a fertile and densely populated alluvial plain, opposite the island of Tsungming (Ch'ung-ming). The coast-line undergoes constant changes, owing to the shifting of sand-banks. If the projected railway from Tsingkiangpu to Haimenting is ever constructed the town will increase greatly in importance. It is connected with Tungchow by a road and various creeks (no details available).

## (C) TUNGCHOW TO LÜSZE (53 miles)

General direction E. This is the main water route; but it winds considerably, and the land route is probably 10 miles shorter. The waterway is not tidal. Its width is from 15 to 50 yds., averaging about 25 yds. Its depth, in April, varies from about  $3\frac{1}{2}$  to 6 ft. The shallowest parts are those near Tungchow and in Kinsha. There is no current. The banks average about 3 ft. in height. This waterway is regularly navigated by a steam-launch drawing  $2\frac{1}{2}$  ft. towing a passenger-boat holding 60 passengers. The launch goes to Lüsze every other day, returning to Tungchow on the intermediate days. In May and June, when much water is taken out of the canal for irrigation, there is only 2 ft. of water in some places near Tungchow, and the launch service may have to stop for a month. The canal is also much used by boats, propelled by sail or *yulo*, or towed from the bank. There is a towpath the whole way from the east suburb of Tungchow to Lüsze.

Two hundred boats are obtainable in Tungchow or Kinsha, and from 40 to 80 in Siting, Kinyüchen, Yüsi, Wu-fu-ch'iao, Szekia, Lukia, and Paochang. There are very few boats in Lüsze. The above include a considerable proportion of house-boats, accommodating from 6 to 12 men. Cargo-boats have an average capacity of from 70 piculs to 200 piculs (about 4 to 12 tons). Navigation is never stopped by ice.

Bridges are numerous, averaging one to the mile. In reaches of the canal where bridges are few, ferries are numerous. The ferries are small boats, capable of taking about 6 men. The bridges are chiefly high and of wood; none of them is low enough to obstruct navigation.

The surrounding country is quite flat, very highly cultivated, and with numerous villages. It is much intersected by canals, which practically restrict movement to the paths. Trees are scarce. The towpath is regularly used by wheelbarrows. The houses would afford good temporary accommodation.

Very large supplies of rice, flour, vegetables, fish, chickens, ducks, and eggs are to be got in Tungechow and Kinsha. Smaller supplies of the same sort are obtainable in the various market villages passed through. There is not much in Lüsze, which is a poor place. The water of the canal is drinkable if boiled.

miles

- 0     **TUNGCHOW**, P. T. From wharf near *South Gate* road leads round city.
- 1½     *East Suburb*. From here a towpath, first on l. bank.
- 4     *Pa-li-miao*, small temple on l. bank.
- 5¾     **Kuan-yin-t'ang** (20 houses), on both banks.
- 8½     **An-shan** (Yunganchen, P. ?), market village (80 houses).  
       A canal goes off to the north, said to lead to Shih-kiang.  
       Direction of route changes here from NE. to E.
- 10½    **Hu-chia-ch'iao** (12 houses).
- 13½    **Siting**, P., market village (200 houses).
- 18     **Kinsha** (Chin-sha), P., market town (800 houses).
- 22¼    **Kinyüchen**, P., market village (120 houses).
- 24¾    **Yüsi**, P., market village (80 houses).
- 26½    **Wu-fu-ch'iao**, market village (60 houses).
- 28     **T'ou-ch'iao**, village (80 houses). The towpath crosses to the r. bank by a bridge.
- 31¼    **Ssü-yang-pa** (12 houses) on r.  
       A canal turns off here to r., with a haulover about 300 yards distant. This canal is said to lead to Ch'ing-lung-chên, 10 miles away.
- 32     **Szekia** (Ssü-chia-pa), P., market village (100 houses).
- 33     **Liang-chia-tien** (30 houses).
- 33½    **Wu-chi-ch'iao** (40 houses).
- 35¼    **Wang-tsao-ho**, market village (60 houses).
- 37     **Yütung Ku** (or Lü-tsao), P., market village (120 houses).
- 42½    **Paochang**, P., market village (120 houses).

miles

47½ **Lukia**, P., market village (80 houses).

53 **Lüsze**, P., market village (200 houses). The canal ends here.

The village is some 9 or 10 miles inland. Although connected with the sea by a creek, no sea-going junks can reach it owing to numerous sand-banks.

## ROUTE 21

### TUNGCHOW TO FOWNING

*Authorities*: G. E. Pereira, Feb. 1908; Gandar, *Le Canal Impérial*, 1894; War Office MS. maps of N. Kiangsu.

#### (A) LAND ROUTE (222½ miles)

A road leads along the *Fan-kung-ti*, or great embankment (constructed as a protection against the sea). It extends from near the mouth of the Yangtse to the east of Tungchow, northwards through Tungtaihsien and Yencheng Ku, running almost parallel to the Grand Canal (at a distance of some 50 to 60 miles), and constitutes an important means of communication between the Yangtse and North Kiangsu. It is much used by wheelbarrows, but is not passable for carts. Originally the embankment was 30 ft. wide at base, 10 ft. at top, and about 15 ft. high. Through neglect and decay these dimensions have been much reduced, the height being often not more than 5 or even 3 ft. Numerous graves dug in the sides have at places reduced the roadway to a minimum. Such is the case for example between Tungtaihsien and Paikü. Artificial mounds 30 ft. high are distributed along the embankment and command a good view of the neighbouring country. Eighteen flood-gates built in the embankment afford an outlet to the waters of the great Kiangsu plain. The width of some of them exceeds 20 ft.

Various references to the state of the *Fan-kung-ti* will be found in Route 21 B.

The Fan-kung-ti passes some 20 miles E. of Tungchow and can most conveniently be reached via Kinsha. The latter town is on the navigable creek described in Route 20 C.

miles (approx.)	
0	<b>TUNGCHOW</b> , P. T. (see <i>Gazetteer</i> ). For details up to mile 18 see Route 20 C.
18	<b>Kinsha</b> , P. Route leaves bank of creek. The latter bends SE. and leads to Lüsze (see Route 20 C). Direction NE.
20½	Route ascends the <i>Fan-kung-ti</i> , and continues along it all the way to Fowning.
27	<b>Ch'i-an</b> on l.
29	<b>Wu-tsung-p'u</b> , on l. A road goes W. to Shihkiang, P. (5 miles).
30	<b>Liu-tsung-p'u</b> , on l.
31	Roads go off to l. and r.
41	<b>Chüehkiang</b> , P., 1½ miles on W. The town is separated from the Fan-kung-ti by a creek. This creek comes from Jukao (about 40 miles W.), and turns N. skirting the Fan-kung-ti for 5½ miles. A road along creek from Jukao crosses the Fan-kung-ti and goes E.
53	<b>Ch'ang-sha</b> , on r.
57	<b>Chin-chia-p'u</b> , on l.
72½	A creek runs SSW. to Chaho, P., on the Jukao-Chüehkiang creek. Sea about 1½ miles on r. Farther N., Fan-kung-ti recedes again from sea-shore.
93½	A road goes S. to Jukao (14 miles). <b>Shih-wu-tsao</b> , on r. The <i>Hsia-érh Ho</i> , a creek, crosses the Fan-kung-ti to N. and follows along it to Fuan Ku, where it recrosses.
111½	<b>Fuan Ku</b> , P. on l. Farther N. the Fan-kung-ti runs parallel with the Ch'uan-ch'ang Ho, described in Route B, mile 68 onward.
222½	<b>FOWNING</b> , P. (see <i>Gazetteer</i> ).

## (B) WATER ROUTE (about 179 miles)

The route can be conveniently divided into the following sections :

(1) *Tungchow to Haian* (58 miles)

The route lies along the *Li Ho*.

miles	
0	<b>TUNGCHOW</b> , P. T. For detailed account see below, Route 22.
58	<b>Haian</b> , P.

(2) *Haian to Tungtaihsien* (about 26 miles)

Along the Ch'uan-ch'ang Ho, a fine canal dug mainly along the western side of the great embankment or Fan-kung-ti (described above, Route 21 A). Much used by salt-boats. In this section the canal is partially silted up. There is enough water for launches in summer, but in winter the longer alternative routes must be followed (see below, Route 21 C). A dam blocks up entrance of creek.

miles (approx.)	
58	<b>Haian</b> , P. T. The Ch'uan-ch'ang Ho begins. It is separated from the Li Ho by a dam. Direction NNW. The Li Ho, followed up to this point, turns SSW. (see Route 22).
68	<b>Fuan Ku</b> , P. From this point onward the Fan-kung-ti runs very close to E. bank of canal.
76	<b>Anfeng</b> , P.
78	<b>Liangtow</b> , P.
84	<b>Tungtaihsien</b> , P. T., large unwallled city (see <i>Gazetteer</i> ).

(3) *Tungtaihsien to Paikü* (19½ miles)

Direction N.

The Yen Ho (No. 2) joins the Ch'uan-ch'ang Ho through a 25-ft. gap in an earth barrier. The current sets N., and

the water is clear. It is 50 yds. wide for the first 7 miles and 70 yds. for the remainder of the section. Its depth varies from 9 ft. 2 in. to 9 ft. 8 in., the deeper part being mostly on the l. For 300 or 400 yds. north of Ts'ao-yen its depth is 5 ft. It is only bridged in two places, one at the barrier at Tungtaihsien, and the other at Paikü. In consequence there are numerous ferries. The country is highly cultivated; chiefly fields of rice and spring wheat. Villages are numerous, especially in the latter part of the section.

There is a towpath on the r. all the way, and embankments on either side from 8 to 10 ft. above level of river. On r. the country is 6, and on l. 4 ft., above level of river. For the first 8 miles there is an additional embankment close to r., 8 to 12 ft. high, broken every 80 to 100 yds. by channels through which the river, when it rises a further 6 ft., can drain off between it and the Fan-kung-ti. There are a number of side-creeks, some bridged and others not.

The Fan-kung-ti (see Route 21 A) is only raised 3 to 5 ft. above the level of the country on the r. For the first few miles the road is in good condition, but afterwards much spoilt by the thousands of graves made on it, and it degenerates into a footpath, used by foot-passengers and wheelbarrows. A dozen or more river war-junks are kept on the Ch'uan-ch'ang Ho, which, from Taichow to Yencheng Ku is also called the Yün-yen Ho.

Rivers flowing east to the sea from the Ch'uan-ch'ang Ho are usually called *Hai Ho* or 'Sea River'. In this notice they are distinguished by giving each the name of the place from which it branches off.

miles

84

**Tungtaihsien.** P. T. Leaving at the NW. corner, the route leads down the *Ch'uan-ch'ang Ho*, which is partly dammed at the junction with the Yen Ho (No. 2) by an earth embankment 90 yds. long, 14 ft. broad, and 10 ft. high, with only one entrance 25 ft. wide, crossed by a removable bridge 27 ft. long. After



miles

passing embankment at junction the river makes a bend eastwards for about 300 yds. and then continues north.

85 River 6 ft. 3 in. deep near r.

86 River 9 ft. 3 in. deep.

86½ **Hsia-chia-shê** (20 houses), on r.

87 **Pei-hsia-chia-shê** (30 houses), on r.

87½ River 9 ft. 3 in. deep. 200 yds. farther on, **Liu-chia-shê** (called locally Niu-chia-sa), 20 houses on l. A ferry.

88½ **Chang-chia-shê** (30 houses), 100 yds. from r.

89½ **P'an-chia-shê** (30 houses), on l.

90½ Dammed entrance to the *Tung-hai Ho*, consisting of a lock of the usual Chinese pattern, with 5 gates, one open, the remainder closed with earth. Lock protected from river by an outer barrier of earth with a single entrance. The *Tung-hai Ho* is 50 yds. wide and flows east to *Shên-chia-tsao* on the coast, said to be 50 li (17 miles) distant. After passing this lock the main branch of the *Ch'uan-ch'ang Ho* makes a semicircular bend to the west for about 600 yds. A smaller channel, 10 yds. wide, 4 ft. 3 in. deep, continues straight on through *Ting-hsi*.

91 **Ting-hsi** (200 houses), with single-arch stone bridge over smaller channel.

91½ Main channel rejoins smaller one. River 70 yards wide. Embankment on r., 8 to 10 ft., and country 4 to 6 ft., above river-level. *Fan-kung-ti* 400 yds. from r. bank.

92 *Fan-kung-ti* 50 yds. from r. bank, taking place of embankment. R. bank 6 to 8 ft. above river-level, and terraced with rice plots.

92½ Two southern locks of *Hai Ho* on r., with separate entrances, first with two dammed gateways, second with three gates, one of which is open, the other two closed with earth. (The *Hai Ho* joins the sea at

miles

- Sitwan, 50 li distant. It flows at first north, nearly parallel to the Ch'uan-ch'ang Ho.)
- 93 Main channel of Ch'uan-ch'ang Ho makes a bend to the west for 600 yds. Small channel 10 yds. wide goes straight on through town of **Ts'ao-yen** (400 houses), where it is crossed by a single-arch stone bridge and another of wood.
- 93½ Main channel again rejoins smaller one. River 5 ft. deep for 300 or 400 yds.
- 94 Two northern locks of Hai Ho on r.; the first with two gates, the second with three gates; only one of the latter open. Hai Ho 400 to 600 yds. distant on r. Country on r. 6 ft. above water-level; Fan-kung-ti, about 6 ft. higher, and 70 yds. to r.
- 94½ Villages numerous in country to west.
- 95½ **Chu-chia-yüan** (50 houses) on l. River 8 ft. deep.
- 96½ River 7 ft. 6 in. deep in centre.
- 96½ Hai Ho, 600 yds. from r. Ch'uan-ch'ang Ho, 7 ft. 9 in. deep in centre, 8 ft. 5 in. near l. R. bank 8 ft. above water-level, with Fan-kung-ti usually 3 ft. higher and 30 to 50 yds. from r. bank.
- 98 **Chieh-p'ai-t'ou** (30 houses), on l. Ferry.
- 98½ **Shih-li-tun** (Sa-li-dun), 30 houses, on both banks. Ferry.
- Hai Ho, 2 miles from r. bank, now turns east.
- 101 River 10 ft. deep in centre.
- 101½ R. bank 4 ft. above water-level; Fan-kung-ti 6 ft. higher and close to r. bank for a short distance. Country near r. bank swampy or covered with graves.
- 102½ Lock on r. with two gates closed by dams. Pond on farther side of it, crossed by a wooden bridge. This lock communicates with the *Paikü Ho* to north of town.
- 103½ **Paikü** (Bok-jü) P., town on r. (400 to 500 houses). Here river is crossed by a high, weakly constructed wooden bridge on six trestles, 54 yds. long, 10 ft. wide.

miles

It is very unsafe and roadway planks are uneven, with many gaps. Opposite the town, the Ch'uan-ch'ang Ho again bends to the west for about 200 yds., whilst smaller channel, crossed by a single-arch stone bridge of span and height each 15 ft., goes through the town.

The *Nan-hsing-hua Ho* from Pehnganfeng, 40 li distant, comes in from west.

(4) *Paikü to Pien-ts'ang* (18 miles)

Direction N. along the Ch'uan-ch'ang Ho. The river averages 60 to 70 yds. in width, though for the last  $1\frac{1}{2}$  miles it is no more than 50 to 60 yds. For the first 9 miles it is 12 ft. deep, and then from 7 ft. to 8 ft. 6 in. It follows a winding course. The r. bank is 6 to 10 ft. above level of water, and the Fan-kung-ti is usually close to it, and 3 to 5 ft. higher. On the left the embankment is 10 to 15 ft. high and 12 ft. wide, with a track along it. There is a towpath on one side or the other, and the side-creeks usually have trestle bridges with single planks. Rivers branching off to the sea are usually partially dammed by locks at their junction with the Ch'uan-ch'ang Ho.

The country is highly cultivated. Rice is the chief crop, after which come wheat and beans. Houses are scattered about everywhere, and there are numerous small villages at some little distance. Most of the traffic is on the river, on which are many small boats, a fair number of house-boats, and some steam-launches. Wheelbarrows are not so much used, and there are no donkeys, mules, ponies, or carts on the tracks near the river. Water-buffaloes are plentiful.

miles

103 $\frac{1}{4}$ 

**Paikü, P.** North of the town the *Paikü Hai Ho* flows east to Tou-lung-chiang. 80 li distant on the sea. It is about 30 yds. wide, and has three locks each connected with the Ch'uan-ch'ang Ho by a

miles

separate channel. The first lock has two gates, one dammed; the second five, of which three are dammed; and the third two, with one dammed. Each gate is about 7 yds. wide. The *Ch'uan-ch'ang Ho* is 17 ft. 8 in. deep at the bend, and 12 ft. deep north of the town. The *Fan-kung-ti* is 200 yds. from r. bank, and raised 3 to 5 ft. above country.

104½ River 80 to 100 yds. wide.

105 River 12 ft. 2 in. deep.

105½ Towpath on l. with embankment 10 to 15 ft. high and 12 ft. wide on the top, which is mostly cultivated, with a track for traffic. Creeks on l. crossed by trestle bridges, usually with a roadway of planks, or logs laid across. Creeks on r. few in number and unbridged till they reach the *Fan-kung-ti*. River 12 ft. 3 in. deep.

106 *Fan-kung-ti*, 100 yds. from r. bank.

107 River 60 to 70 yds. wide.

107½ River 10 ft. 4 in. deep.

108 River 8 ft. 7 in. deep.

109 **Liu-chuang-ch'ang** (200 houses), on r., with a high 6-trestle bridge S. of town.

Here is the lock at the entrance of the *Ch'i-tsao Ho*, to which there are two gates, one dammed. This river goes to *Ch'i-tsao*, 18 li, and the sea, 30 li, distant.

*Ch'uan-ch'ang Ho*, 12 ft. 6 in. deep, makes a bend west for 400 yds. away from the town. It is then 11 ft. 7 in. deep, and here joined by another *Ch'uan-ch'ang Ho* (different characters in name), coming from *Ta-ying*, 50 li to the west.

110½ River crossed on north side of town by another trestle bridge after completing bend to west, to which it subsequently turns again past the *Tzū-yün-shan* temple on r. After this it again flows N.

The *Pa-tsao Ho* (with a lock, of which the two gates

miles

are open and dilapidated) goes to Pa-tsao, 15 li, and the sea, 39 li distant.

Ch'uan-Ch'ang Ho, 14 ft. 7 in. deep near bank, 7 ft. 8 in. near l. Towpath again on r.

- 111 Fan-kung-ti, 20 yards r., 12 ft. above river-level, and 6 ft. above country on r. There are now fewer graves along it, and it could easily be levelled for carts. Embankment 12 ft. high on l.

111½ River 7 ft. 3 in. deep.

114½ River 7 ft. 5 in. deep.

115 Fan-kung-ti, 200 yards from r. bank.

115½ River 8 ft. 5 in. deep.

116½ A canal 20 ft. wide, unbridged at its entrance to river, passes under a bridge through the Fan-kung-ti and goes eastwards past Hsiao-t'uan (100 houses), a mile to east.

117½ Fan-kung-ti again approaches river.

118 Ta-t'uan (60 houses) on r. The *Pei-hsing-hua Ho* comes in from west. The *Shên-chia-shê Ho*, with a lock (two open gates) and channel open to north of it, goes east to T'ung-yang-chiang, 30 li distant, and to the sea.

118¾ River 7 ft. deep.

119¾ Roadway of Fan-kung-ti again obstructed by tombs for ½ mile. River 50 to 60 yds. wide.

120½ Fan-kung-ti, 300 yds. from r. bank.

121½ Pien-ts'ang, 300 houses on r., of which 100 are near bank, remainder scattered.

A river without locks, called the *Pien-ts'ang Hai Ho*, flows from the south of the town east to the sea, 120 li distant.

A wooden bridge over Ch'uan-ch'ang Ho opposite the town, on two trestles with brick roadway, 42 yds. long, 12 ft. wide, centre span from 20 to 24 ft. high and 33 ft. long. The river at the bridge is 31 yds. wide, elsewhere from 40 to 50 yds.

(5) *Pien-ts'ang to Yencheng Ku* (15½ miles)

Direction NNW. along the Ch'uan-ch'ang Ho. Average width of river 50 yds., though in places it narrows to from 30 to 40 yds. The average depth is 9 ft., though in latter part of the route it is no more than from 7 to 7½ ft. On the r. the bank is 8 to 10 ft. above the level of the river, with the Fan-kung-ti 100 to 200 yds. distant from it. In some places it is on a level with the country, in others it is raised 3 to 6 ft. A road in fair condition, with, however, some bad places in it, runs either along it or just below on the east side. The l. bank—in places an embankment—is mostly 10 ft. above the level of the river. The country is either on a level with the top of the river banks or 3 or 4 ft. lower. It continues a fertile, highly cultivated plain, covered with houses and small villages. Water-buffaloes, pigs, and fowls are plentiful, but there are no horses, donkeys, mules, or bullocks. The river is crossed at Pien-ts'ang, Ch'ên-chia-hsiang, and Wuyu by wooden trestle bridges. Side-creeks are fairly numerous, and many of them are unbridged on the r., and have to be crossed at the Fan-kung-ti. There are many war-junks on the river. It is stated at Yencheng Ku that the Ch'uan-ch'ang Ho does not freeze to the south, but that it does so occasionally, for about 10 days in January, on the reach northwards to Fowning in exceptionally severe winters.

miles

121½

**Pien-ts'ang.** Route continues down Ch'uan-ch'ang Ho (or, as it is here called, Yün-yen Ho); r. bank mostly 8 to 10 ft. above water, sometimes only 6 ft. The Fan-kung-ti is 300 or 400 yds. to r., and on level with fields. L. bank 8 to 10 ft. above river. Side-creeks fairly numerous; those on r. crossed near entrance by trestle bridges with plank roadway. Fertile plain, many houses scattered about, especially on l., small villages more numerous.

122½

**Ch'ên-chia-hsiang** (called locally Ch'ên-chia-han), 60 houses on r. Here river is crossed by a wooden

miles

bridge on four trestles, with plank roadway, 50 yds. long, 12 ft. wide, centre span 30 ft. long, 24 ft. high. River 40 yds. wide at bridge, 8 ft. 10 in. deep.

123 $\frac{1}{4}$  Canal, 10 ft. wide, crossed by trestle bridge with roadway of four planks, goes east. Creeks on l. unbridged. River 8 ft. 6 in. deep.

123 $\frac{3}{4}$  Fan-kung-ti, 100 yds. to r., and 3 ft. above level of fields. A fairly good 4-ft. road below it on east side, but in some places furrowed by wheelbarrows.

124 $\frac{1}{2}$  River 9 ft. deep.

124 $\frac{3}{4}$  **Po-chia-hsiang** (Bok-chia-han), 50 houses, on r. Ferry-river 8 ft. 6 in. deep.

The *Tung-chiang Ho*, coming from Wuyu, approaches to within 100 yds. and then turns east to Pei-wan-tzŭ (Bok-an-tzŭ), 80 li, and Liu-wang-t'ang on the sea, 100 li distant.

Fan-kung-ti, along r. bank for a mile; a good 12-ft. road, paved with bricks.

125 $\frac{3}{4}$  **Wuyu**, P. (3,000 houses), on r. River 9 ft. 4 in. deep.

The *Tung-chiang Ho* (crossed by a small wooden bridge), 15 yds. wide, flows out of the Ch'uan-ch'ang Ho, at first to the south, and nearly parallel to the latter for a mile.

Ch'uan-ch'ang Ho makes a bend of 600 yds. to the west of the town.

126 $\frac{1}{2}$  Wooden bridge on four trestles, 54 yds. long, 12 ft. wide. Centre span 33 ft. long by 20 ft. high. River 30 to 40 yds. across at the bend. It turns east after passing the town. A channel (only for small boats) goes straight through the town, and to the north of the latter a canal branches off east.

Towpath on l. at bend, then again on r.

127 $\frac{1}{4}$  River, 12 ft. deep, 50 yds. wide. Fan-kung-ti, with fairly good unpaved 8-ft. road, near r. bank.

129 $\frac{1}{4}$  River 12 ft. deep. South **Ts'ai-chia-hsiang** (30 houses) on l.

miles

- Hsiao-hsin Ho*, 20 ft. wide, flows east to Yang-an, 30 li, and to the sea, over 100 li distant.
- 129½ North **Ts'ai-chia-hsiang** (70 houses), on r. Fan-kung-ti 100 yards to r., 3 ft. above level of river, 6 ft. above level of fields to east.
- 130¼ 20-ft. mound, said to be 20 li from Yencheng Ku, on r. River 11 ft. deep.
- 130½ **Hsü - chia - hsiang** (Chu - chia - han), 30 houses on r.
- 131¼ **Ti-pan-ying** (20 houses), on l.
- 132 River 10 ft. 4 in. deep.
- 132¼ Bank on r. 6 ft. above river, 10-ft. embankment on l., 4 ft. above level of country to west. Fan-kung-ti 200 yds. to r. and 3 ft. higher. **Ma-chia-chuang** (20 houses) on r.
- 133 *Hsin Ho* flows east to Tung-yang-an, 25 li, and Ta-hai-k'ou on the sea, 120 li distant. It is 20 yds. wide, and crossed about 200 yds. farther down by a trestle bridge.
- Tai-chia-chuang** (20 houses), on l. River, 7 ft. 1 in. deep near r., continues straight for 3 miles, 45 yds. wide. Houses along each bank.
- Fan-kung-ti 600 yds. from r.
- 133¼ River 7 ft. 5 in. deep.
- 135¼ River 7 ft. 8 in. deep.
- 135¾ *Lung-wang-miao* (temple) on 50-ft. mound 600 yards to r. Fan-kung-ti passes to west of it.
- 136 River bends to NW.
- 136¼ Entrance to the *Hai Ho* on the r. This river is dammed 200 yds. farther on. Beyond, there is a dry channel for 300 yds. to a lock with two gates, rather dilapidated. The channel bends north, and is choked with reeds till opposite the east gate (about 800 yds.), where a small channel from the latter joins it, and small boats can go from here to its junction with the *Yang Ho*.



miles

136½

**YENCHENG KU**, P. South gate, 50 yds. from river, which turns to west of city.

For description of Yencheng Ku see *Gazetteer*.

(6) *Yencheng Ku to Fowning* (42½ miles)

General direction NW. Starting from the South Gate of Yencheng Ku, this route follows the Ch'uan-ch'ang Ho round the SW. corner of the city, and northwards to Li-yang-k'ou, ¾ mile beyond the North Gate. From this place northwards it is known as the Shang kang Ho. It is fed by the numerous canals from the Hsia-ho district, and is a continuation of a branch of the Ta-shih-wan Ho from Hwai-anfu.

North of Shang kang the name of the river becomes Kang Ho, by which it is known up to the end of the route. Under normal conditions the current sets to the north, but in time of flood is sometimes driven south. The width of the river varies from 18 to 30 yds.; its depth from 4 to 9 ft. The banks are from 6 to 12 ft. above the level of the water, and in the early part of the route towing is much hampered by unbridged creeks. From Hsin-hsing-ch'ang northwards, however, most of them are bridged. There are numerous ferries.

The Fan-kung-ti embankment follows more or less the course of the river. It varies in width for the most part from 3 to 10 ft., and in height from 3 to 6 ft., though in places it is on a level with the fields. Its surface is, in general, good. At first houses are scattered about and rarely grouped into villages, which towards the end of the route become more frequent. The country is highly cultivated, the chief crops being spring rice and beans. Windmill irrigation wheels are much used. Water-buffaloes, pigs, and fowls are plentiful. There are few donkeys, and no mules or ponies. Carts are not used, but there is a considerable amount of wheelbarrow traffic. Small boats are numerous, and there are a few large salt-boats. In a severe winter the Kang Ho may freeze.

miles

136½

**YENCHENG KU**, P. South Gate. River is 60 to 70 yds. wide, over 15 ft. deep, and rather muddy. The towpath is on the l., along a 10 ft. embankment.

139

The Ch'uan-ch'ang Ho, 9 ft. 5 in. deep, turns east and divides into two channels, the main one flowing between the *Wang-hai-lou* temple in the south, and the *T'ien-hou-kung* temple in the north, and passing through the *Shih-ta-cha* lock with five gates, of which the three centre ones are open, and the outer dammed with earth. The gates are bridged with movable planks to admit of the passage of boats. Current very strong. The small channel passing to the north of the *T'ien-hou-kung* has a lock with two similar gates. Village of **Cha-k'ou** (200 houses) on bank to north of smaller and south of larger lock. The two channels unite further on.

The river to the east of the locks is called the *Yang-k'ou Ho*. It turns SE. for nearly a mile, to **Li-yang-k'ou** (30 houses), on the r., the port of Yencheng Ku, and distant ¾ mile from the *North Gate*. Sea-going junks come up to here from Manchuria, Shantung, and Shanghai. It eventually reaches the sea at *Hai-k'ou* (see Route 25 D).

After passing to the west of the locks the present route to Fowning ascends the *Shangkang Ho*, here 60 yds. wide and 10 ft. deep.

139¼

The *P'i-ch'a Ho*, 40 yds., wide, flows from the west into the *Shangkang Ho*. The latter river is 40 yds. wide above the junction, with 10 ft. embankment on r., and 4 ft. embankment on l. Towpath on l.

140

**Chên-chia-têng** (San-ga-den), 10 houses, on l. *Shangkang Ho*, 25 to 30 yds. wide, 9 ft. 4 in. deep; water rather muddy. Towpath on l., broken by 11 unbridged creeks, varying from 6 to 10 ft. in width, within the next 3½ miles. In addition there are shorter channels which have also to be passed. The

- miles |
- creeks on the r. are mostly bridged, but trees along that bank interfere with towing.
- 140 $\frac{1}{4}$  | River 8 ft. 3 in. deep.
- 140 $\frac{1}{2}$  | **Sun-chia-chuang** (20 houses), 200 yds. to l.
- 140 $\frac{3}{4}$  | **Yüan-chia-chuang** (Yu-ga-chuang), 10 houses, on both banks. River 8 ft. 3 in. deep.
- 141 $\frac{1}{2}$  | **Hsi-yüan-chia-chuang** (10 houses), on r.
- 141 $\frac{3}{4}$  | The Fan-kung-ti is here  $\frac{1}{2}$  mile to east, and raised 6 ft. River 8 ft. deep.
- 142 $\frac{1}{4}$  | **Wu-chia-ho** (30 houses), on r. River 10 ft. deep. The Fan-kung-ti is on level with l. bank, 4 ft. higher than country to east. Distant 200 yds. from river, which shortly bends west from it.
- 142 $\frac{3}{4}$  | River 8 ft. deep.
- 143 $\frac{1}{2}$  | Fan-kung-ti, now a good 8-ft. road, along l. ; 10-ft. embankments on both banks, 4 to 6 ft. above level of country.
- 144 | Main channel of river makes a bend to the west of 400 yds. to avoid flooding Hsin-hsing-ch'ang when the river is high ; whilst a small channel, only used by boats of shallow draught, goes straight on with the Fang-kung-ti through **Hsin-hsing-ch'ang** (200 houses). Main channel 7 ft. 4 in. deep at bend.
- 144 $\frac{3}{4}$  | Main channel running north passes under wooden bridge on two trestles, 27 yds. long, with centre span of 27 ft., and 20 ft. high. Another 200 yds. farther on it bends east for 400 yds.
- 145 $\frac{1}{2}$  | Main channel rejoins smaller channel north of Hsin-hsing-ch'ang, and again flows north. Banks 12 ft. high on either side of river, here 8 ft. 3 in. deep.
- 147 $\frac{1}{4}$  | **Yi-chia-tsao** (Ni-ga-so), 20 houses, on r.
- 147 $\frac{1}{2}$  | Fan-kung-ti,  $\frac{1}{2}$  mile to east, on level with fields, and fair 3- to 5-ft. path.
- 148 $\frac{1}{4}$  | **Sha-chia-ying** (40 houses), 100 yds. r. River 7 ft. deep.

miles

- 148½ Unbridged creek, 30 ft. wide, on l.
- 148¾ River 6 ft. deep.
- 149½ The *Ta-t'uan Ho* (or Yen Ho), 12 ft. wide and shallow, crosses at right angles. **Ta-t'uan-k'ou** (Ta-t'ou-k'ou), 10 houses, on r. Shang kang Ho 5 ft. 2 in. deep.
- 149¾ River 5' ft. 4 in. deep. Fan-kung-ti, 600 yds. to east, level with fields.
- 150½ River 6 ft. deep.
- 150¾ **Shên-t'ang-tsao** (Shên-t'ang-joe), **Wang-chia-tsao**, **Chang-chia-tsao**, and **Chou-chia-tsao**, four villages, practically a succession of straggling houses (500 or 600), on both banks, for about 1½ miles.
- 151½ River 6 ft. 4 in. deep.
- 152½ River 6 ft. deep. Unbridged creek on l.
- 153 *Ta-shih-wan Ho* (Tay-ssü-wan Ho), 30 yds. wide, flows in from west. It comes from Hwaiianfu, said to be 200 li distant (see Route 25 B). It here divides, part of its waters flowing south to form the Shang kang Ho, and part continuing NE. through Shang kang.
- 153¾ **Shangkang**, P., said to have 4,200 houses, chiefly on east bank. A brigadier (*T'ung-ling*), commanding war-junks, is stationed here. There are no missionaries. River here crossed by two wooden bridges, the first, on two trestles, 31 yds. long; centre span 33 ft. by 20 ft. high.
- 154½ Second wooden bridge, on six trestles, 38 yds. long; centre span 33 ft. by 20 ft. high. Below the bridge the river bifurcates, one branch going NE., and, passing through a dilapidated lock-gateway, forms the *Shangkang Hai Ho*, 40 yds. wide, which flows to the sea. A channel, which joins it from the SE., called the *Hsiao-yen Ho*, is 20 yds. wide, and without current, being dammed ½ mile farther up. The second channel is that running NW. and NNW. to Fowning, known as the *Kang Ho*. It is here

miles

25 yds. wide, 4 ft. 5 in. deep, with 10 ft. banks.  
Towpath on l.

The Fan-kung-ti, which crosses from east to west at the second bridge in Shangkan, is now along l. bank. It is a fairly good 8-ft. road, though rather uneven. There is a succession of villages, composed of detached houses, at a couple of miles distance from both banks, for the first  $9\frac{1}{4}$  miles to San-kuan-tien, with rice fields intervening.

155 River 4 ft. 2 in. deep.

155 $\frac{3}{4}$  **Hsia-chia-ch'iao** (120 houses). River 4 ft. deep.

156 $\frac{1}{2}$  **Wu-li-tun** (100 houses), with 30-ft. mound, south of village, on l. River 4 ft. to 4 ft. 4 in. deep.

157 $\frac{1}{2}$  **Ch'i-li-hsiang** (Ch'i-li-han), 100 houses. River 4 ft. deep.

158 **Tung-chia-ch'iao** (70 houses).

158 $\frac{1}{4}$  River 5 ft. 2 in. deep.

158 $\frac{3}{4}$  **Li-chia-hsiang** (Li-ga-han), 120 houses.

159 $\frac{1}{2}$  **Wu-chia-ch'iao** (100 houses). River 18 to 20 yds. wide, 7 ft. deep.

160 **Yang-chia-hsiang** (Yang-ga-han), 300 houses.

160 $\frac{3}{4}$  **Pei-p'êng-chuang** (Bok-p'ang-chuang), 150 houses.  
River 7 ft. 5 in. deep.

161 Canal, 30 ft. wide, comes in from west.

161 $\frac{1}{2}$  30-ft. mound on l. River 7 ft. 5 in. deep.

161 $\frac{3}{4}$  **Ts'ao-yen-k'ou** (300 houses), with shops, on l. Here a wooden bridge, 34 yds. long, crosses the *Ts'ao-yen Ho*, which is 25 yds. wide. It flows into the *Kang Ho* from the west, and leaves it 100 yds. lower down, in an easterly direction.

162 $\frac{3}{4}$  River 8 ft. 3 in. deep.

163 $\frac{1}{2}$  *San-kuan-tien* (temple) on l. River 8 ft. deep. The *Cha Ho*, which flows east to the sea from here, has only a few stones of a former lock remaining at its entrance. Houses along banks more scattered. Three canals come in from west.

miles

164½ **Lung-wang-tun** (70 houses), on l., with a temple.  
River 9½ ft. deep.

166½ Three canals come in from west. River 7 ft. 5 in.  
deep.

167 **Kowtengchen, P.** (Kou-wan-tun), town of 700 or  
800 houses, with shops, on l.

The *Yü-ch'êng Ho* (called, locally, *Yü-sang Ho*),  
from *Mêng-lung*, 30 li to west, crosses the *Kang Ho*,  
south of the main part of the town. It is spanned by  
a wooden bridge, 41 yds. long, on six trestles; centre  
span 30 ft. by 20 ft. high. Below the junction, river  
is 9 ft. 5 in. deep. Known from this point as the  
*Kou-wan-tun Hai Ho*, it then flows east to the sea  
(270 li distant by river; 100 li by land), passing, at  
its exit, through a lock, with two gates, both open,  
and in rather a dilapidated state.

The *Kang Ho*, which had made a bend to the west  
of about 100 yds. before joining the *Yü-ch'êng Ho*,  
again flows NNW. It is here 30 yds. wide and 6 ft. 5 in.  
deep. The *Fan-kung-ti*, for the next ¾ mile, dwindles  
to a path, with graves between it and the river.

168¾ **Tsêng-chia-chuang** (100 houses), a straggling vil-  
lage on both banks. *Kang Ho*, 5 ft. 5 in. deep.

170 **Nan-k'an** (80 houses) on both banks.

170¾ **Chung-ch'ên-chuang** (100 houses), 300 yds. from  
r. Many villages 2 miles to west. *Kang Ho* 5 ft.  
5 in. deep.

171½ Canal comes in from l.

172½ **Lu-chia-chuang**, 27 houses on l. Towpath some-  
times on l., but crossed in many places by creeks un-  
bridged at their junction with the river. The *Fan-*  
*kung-ti*, now a good 8- to 12-ft. road, raised 3 ft. above  
the fields, is 400 yds. to the west of the river, and  
crosses the creeks by planks or trestle bridges. Vil-  
lages and houses numerous, more particularly along  
river banks. *Kang Ho* 25 to 30 yds. wide.

- |                   |   |
|-------------------|---|
| miles             |   |
| 173 $\frac{1}{4}$ | River 5 ft. 5 in. deep. Canal comes in from west.<br><b>T'ien-chia-shê</b> (30 houses) 100 yds. from l.   |
| 174 $\frac{1}{4}$ | River 6 ft. 5 in. deep.   |
| 175 $\frac{1}{2}$ | <b>Ku-chia-chuang</b> (30 houses), 100 yds. from r.   |
| 176 $\frac{1}{2}$ | River 8 ft. deep, banks 4 to 8 ft. high.  |
| 177               | <b>Liu-chia-chuang</b> (30 houses), on r.   |
| 177 $\frac{1}{4}$ | River 8 ft. 5 in. deep.   |
| 178               | The Kang Ho flows into the <i>Shê-yang Ho</i> , a fine river 150 to 200 yds. wide, and here crossed by a ferry.<br>The <i>Shê-yang Ho</i> comes from Hwaiianfu (see Route 26 B).<br>Route continues NW. up the <i>Shê-yang Ho</i> . |
| 179               | <b>FOWNING</b> , P. (see <i>Gazetteer</i> ). South suburb on north bank of river. A narrow and crooked street leads to South Gate, $\frac{1}{4}$ mile.  |

## (C) ALTERNATIVE WATER ROUTES

Between **Haian** and **Tungtaihsien**, see Route 21 B, sect. 2.

Available when there is not enough water in the Ch'uang-ch'ang Ho at Haian.

## (a) VIA HUANG-TS'UN

(Distance by this route 212 $\frac{3}{4}$  miles)

(1) *Haian to Huang-ts'un* (25 miles)

The route lies along the Li Ho. For detailed account see Route 22, mile 57 $\frac{1}{2}$ .

(2) *Huang-ts'un to Tsintung* (13 $\frac{1}{4}$  miles)

Along the Huang-ts'un Ho. For detailed account see Route 24 C, sect. 2.

(3) *Tsintung to Tungtaihsien* (21 $\frac{1}{2}$  miles)

Along the Yen Ho (No. 2). See Route 24 B, sect. 2.

## (b) VIA TAICHOW KU

(Distance by this route about 239 miles)

As the Huang-ts'un Ho is somewhat shallow it may be found advantageous to make a longer detour farther west :

(1) *Haian to Taichow Ku* (44 miles)

Along the Li Ho. See Route 22, mile 57½, and Route 24 C.

(2) *Taichow Ku to Tsintung* (about 20 miles)

Along the Yen Ho (No. 2). See Route 24 B, sect. 1.

The Li Ho passes close to the South Gate of Taichow Ku, whereas the Yen Ho (No. 2) is reached at **Chao-kung-ch'iao**, 1 mile to the N. of North Gate. The two rivers meet 4 miles west of Taichow Ku at **Chiu-li-kou**, but a stone dam prevents boats from passing from the one to the other. (See also Route 23 C, mile 27¼.)

(3) *Tsintung to Tungtaihsien* (21½ miles)

Same as via Huang-ts'un.

## ROUTE 22

## TUNGCHOW TO YANGCHOW (139 miles)

*Authorities* : G. E. Pereira, February, 1908 ; Survey by Imperial Maritime Customs, 1908.

General direction W. The route lies along the Li Ho (sometimes also called Yen Ho or Yün-yen Ho). The depth of water varies according to the season of the year. At the time at which this report was made it averaged from 6 to 8 ft. The average width is from 30 to 60 yds., but it is in places as much as 70 and as little as 20 yds. There is almost as much traffic upon it as there is upon the Grand Canal. All the salt from Tungchow and Taichow Ku—both large centres of distribution—is conveyed by it. The current sets from E. to W., and if the wind be unfavourable boats have to be towed by 20, 30, or 40 men.



In exceptionally severe winters navigation is sometimes stopped for 2 or 3 days by ice.

The surrounding country is flat, and thickly covered with villages and houses among trees, chiefly willows. It is everywhere under cultivation, the first crop being spring rice and the second wheat. Houses in the towns are of brick with tiled roofs ; in the villages they are of mud and thatched. The country for the first 17 miles is, on an average, 3 or 4 ft. above the level of the water, and for the remainder from 6 to 12 ft. ; but in the first 10 miles it is in places actually below it on the left.

Four launches of the Ta-ta Company run daily between Tungchow and Siennümiao, and one between the former and Lüsze. They leave Tungchow at 8 a.m. and reach Taichow Ku at midnight. Launches are 54 ft. long, 9 ft. wide, and draw 3 ft. 5 in. Numbers of house-boats and small craft are to be seen on the river, but cargo-boats are in the majority. Wheelbarrows are plentiful on the roads. There is a single telegraph wire on the right, from Tungchow to Jukao, thence on the left to Yangchow.

There are towpaths, much used by wheelbarrows, on both banks at first ; after Sanshihlipu there is only one, chiefly on the right. Side-creeks are crossed by bridges. The removal of the planks constituting the centre span of many of the bridges to admit of the passage of launches is a troublesome and laborious performance. There are numerous ferries.

miles

0

**TUNGCHOW**, P. T. (see *Gazetteer*). It is 1,200 yds. by road from the West Gate to small stone bridge over Li Ho in the west suburb. Bearing thence 327° for 700 yards to Ta-ta Steam Launch Company's landing-stage. Boats can leave the West Gate by the moat and, after proceeding south for a few hundred yards, join the Li Ho which runs through the west suburb. Single-line telegraph to Yangchow on r.

1½

Steam-launch station on r. River, 50 or 60 yds.

miles

wide, flows through a thickly populated and highly cultivated plain.

2½ *San-li-an-ch'iao*, a stone-arch bridge over which towpath on r. passes. Creek under it goes east to *Shihkiang*, said to be 50 li (17 miles) distant.

3 Plank bridge over creek going east. Direction NW.

5¼ **Tangkiacha**, P. (about 100 houses), on l. with large cotton and flour-mills. Here wooden bridge on eight piers over river, which is about 70 yds. wide.

7¼ River 8 ft. deep, 35 to 50 yds. wide. River-level higher in places than country on l.

9¼ **Yün-t'ai-shan** (40 houses), on l., with creek going south. Many rafts here.

10¼ **Sanshihlipu**, P. (about 400 houses, chiefly on l.), with single-arch stone bridge. Direction N.

13½ **Ssü-shih-li** (40 houses), on l. A creek to west. Banks usually about 3, sometimes 6 ft. high, first on one side and then on the other.

17½ **Wu-shih-li** (30 houses), on both banks. Country 5 to 8 ft. above river-level.

18½ Country 4 ft. above river-level.

19½ *Wên-fêng-kuo* pagoda on l., where river makes a bend to east for 50 yds.

20½ **Paipu**, P. (300 houses), on both banks, with three bridges (first and third of stone, central one of wood). Direction NNW.

25¼ **Lin-tzü** (150 houses, mostly on r.), with a wooden bridge. Centre span removable. River 11 ft. deep; banks and level of country 8 to 12 ft. above water.

27¾ River 7 ft. 5 in. deep.

30¼ Country 4 ft. above river-level on l., 8 to 12 ft. on r.

30¾ **Tingyen**, P. (100 houses), on r. River 5 ft. 11 in. deep. Wooden trestle bridge, planks of centre span removed for passage of steam-launches, &c.

35 River makes a bend WNW. for 600 yards, then

miles

again NNW. Country and banks 6 to 10 ft. above river-level. Towpath on r. Some irrigating wheels along banks.

36 $\frac{3}{4}$  **Tung-ch'êng** (pronounced Tung-ch'ên), 200 houses, on r., with a trestle bridge similar to that at Tingyen. Direction NW.

39 $\frac{3}{4}$  **Shih-li-p'u** (10 houses), on r. River turns west.

43 **Jukao**, P. T., a walled city, on l. Brick wall, 30 ft. high, in good repair. Route passes under a stone bridge near East Gate, with centre span of movable planks. Similar bridges near North Gate and in north suburb. Here telegraph line (single wire) crosses to l. bank. North Gate has a double gateway; near it a water-gate in the city wall. A moat round the city. Direction N., passing through small north suburb. River now about 30 yds. wide. Banks 8 to 10 ft. high (in many places an additional 3 ft. embankment along r.).

48 $\frac{3}{4}$  **Ch'ai-wan** (50 houses), on r. Creek on r., passing under low stone bridge. River 30 to 40 yds. wide, banks and country 10 to 12 ft. above river-level.

50 $\frac{3}{4}$  **Yu-fang-t'ou** (50 houses), on l.

54 $\frac{3}{4}$  **Lifakiao**, P. (50 houses), on r. High single-arch stone bridge over creek running east. Direction NW.

57 **Hsiao-hai-an** (5 houses), on r. Banks 6 to 8 ft. above river-level.

57 $\frac{1}{2}$  **Haian**, P. T. (400 or 500 houses), chiefly on r. A straggling town nearly a mile long, with two bridges, one of wood, the other of stone, both with centre span of planks removed for passage of steam-launches.

58 $\frac{1}{4}$  Haian ends. Direction WSW.

63 **Hu-chia-chi** (150 houses), on both banks.

65 $\frac{1}{4}$  **Ch'ing-ming-chiang** (100 houses), on both banks. Wooden trestle bridge with movable centre span of planks. Banks 10 to 12 ft. above river-level.

67 $\frac{1}{4}$  **Kütang**, P. (300 houses), on both banks. Two

miles

wooden trestle bridges with movable centre span of planks. Just before reaching second bridge river narrows to under 20 yds. till passing it.

67½ Banks 6 to 10 ft. high.

71¾ **Pai-mi**, village on both banks.

72½ **Hsiao-pai-mi**, village, with a trestle bridge.

79 **Kiangyen**, P. T., village on both banks, with two bridges across river.

82¼ **Huang-ts'un**, village. A small river runs north to Tungtaihsien; see Route 24 C, sect. 2.

For details between Huang-ts'un and Taichow Ku see Route 24 C, sect. 1.

98¼ **TAICHOW KU**, P. T., an important city (see *Gazetteer*). S. Gate of city about ½ mile to N.

100½ On the r. the *Ta Ho* leaves the *Li Ho* and is separated from it by a stone dam (see Route 24 A).

100¾ **Chiu-li-kou** (100 houses), on r.

102 **Shên-chia-tu** (100 houses), on r.

102½ **Yen-k'ou** (10 houses), on l. Beyond the village, the *Shih Ho*, a creek, goes off to l. (see Route 23 C, mile 25½).

103 Route turns NNE.

104 **Chieh-kou**, on r. Beyond village route turns sharply SW.

109½ **Kuang-fu-ch'iao**, on r. Route bends NW.; after 2 miles bends again SW.

113¼ **Pai-t'a-ho**, village at the junction of the *Li Ho* and the *Pai-t'a Ho*, a creek discharging into the Yangtse River at Sankiangying (13 miles to S.).

115¼ **Yi-ling**, on r.

122 **Siennümiaio**, P. T.

A creek (called Sin-ni-mu on Admiralty Chart 2809) leads to the Yangtse River.

125¼ Route turns N.

129½ **Liu-cha** ('Sixth Lock'), where the *Li Ho* joins the *Grand Canal*. All exits from the *Grand Canal* into

miles

the Li Ho are said to be dammed, with the exception of the eastern one at Liu-cha.

Direction S. along Grand Canal. For details see Route 19, sect. 1.

139<sup>1</sup>

**YANGCHOW**, P. T., an important city on the Grand Canal (see *Gazetteer*).

## ROUTE 23

### KOWAN (ON YANGTSE) TO TAICHOW KU

*Authorities*: G. E. Pereira, February, 1908; Survey by G. E. Pereira and Dan Sing, 1908.

#### (A) LAND ROUTE (about 10 miles)

General direction N. Road 8 to 12 ft. wide, fairly good, and much used by wheelbarrows. It often approaches the river, narrows to a footpath near bank of Yangtse, but becomes wider at Kowan. It runs to the E. of the Kuo Ho. and crosses over to the other bank about  $\frac{1}{2}$  mile S. of Taichow Ku.

#### (B) WATER ROUTE (21 miles)

Along the *Kuo Ho* (also called Kowan Creek?). It is dammed at Taichow Ku to prevent the water of the Li Ho from flowing into the Yangtse. The dam is known as *T'eng-chia-pa*. On the S. side of it numerous cargo-boats are loaded with rice, beans, bean-cake, wheat, &c., to be shipped down the Kuo Ho to junks at anchor off Kowan, which convey them to Ningpo and Shanghai. Traffic considerable during high river (depth 4 to 5 ft.). The depth in February, when water is low, varies considerably, the shallowest being

<sup>1</sup> From Taichow Ku to Liu-cha distances were measured on the Imperial Maritime Customs' Survey. According to Pereira (who estimated these distances by time) Taichow Ku to Siennümiao is about 27 miles, and Siennümiao to Liu-cha 10 miles.

1 ft. 4 in., and the deepest 9 ft. 3 in., but as it changes every few yards it would require constant sounding. Current is to the south; water muddy. It is 60 ft. wide for the first  $2\frac{1}{4}$  miles, narrowing down to 20 to 35 ft. in the next 8 miles; after which it widens to 25 to 35 yds. and narrows again to 15 to 20 yds. near Taichow Ku.

It traverses a very fertile country, covered with villages and houses among trees (chiefly willow), built for the most part of mud with thatched roofs. A few brick houses in larger villages. When the Yangtse is in flood the current is driven northwards. River is extremely tortuous in its course, but becomes more or less straight in the last  $5\frac{1}{2}$  miles. Many creeks run into the river; those from the W. usually dammed, or with only a small outlet; those from the E. with a clear entrance. Towing mostly on l. Banks usually about 12 ft. above river-level. River crossed by several bridges, usually of planks and mud supported by wooden trestles.

Creeks on l. usually crossed by side bridges, but mostly unbridged on r. The average house-boat is 37 ft. 3 in. long, 7 ft. 5 in. broad, with cabin 6 ft. high (floor 3 ft. 1 in. lower than deck), and 16 ft. long, and draws 1 ft. of water. If filled with cargo of rice it draws 2 ft. 5 in. In narrow places (especially opposite Tiaokiapu) two boats can only pass one another with difficulty. Boats can go from the Kuo Ho to the North Gate at Taichow Ku by the Shih Ho, a creek just above Shih-fang-k'ou, flowing NW., and avoid the T'engchia-pa (see Alternative Route C).

In an exceptionally severe winter the Kuo Ho may be frozen for 10 to 11 days; but it was stated in 1908 that this had not happened for 10 years.

miles

0

**Lung-wo-k'ou** (called locally Lung-wu-k'ou), at the mouth of Kuo Ho. 10 houses on the east. One or two war-junks stationed off it. About 600 yds. below junction with Yangtse is a large island extending to the east (**Ki-ying** or Low Island on Admiralty Chart).

Road, at first only a footpath, widens after  $\frac{3}{4}$  mile.

miles

- 2     **Kowan**, P. (500 houses), mostly on the r., with a stone bridge on two stone piers. Centre span covered by movable planking 10 yds. long. Length of bridge 37 yds., breadth 12 ft., centre span 20 ft. high. River 15 to 20 yds. wide. Embankment 15 to 20 ft. high. Good 5 ft. road near l.
- 2½     River 60 ft. wide, winds in long zigzags.
- 3½     **San-yi-wei** (30 houses), on r. River 40 to 50 ft. wide.
- 4     **Hsien-ch'a-t'ang** River, 30 ft. wide, and crossed by a trestle bridge, flows in from the NW., connecting with Yangchow. Only small boats use it.  
Country mostly low-lying. Rice-fields with 12- to 15-ft. embankments, or higher ground alongside river.
- 4½     **San-chi-t'iao** (13 houses), on r. River 25 ft. wide.
- 5½     River 4 ft. deep.
- 7½     River 1 ft. 8 in. deep.
- 8¾     River 2 ft. 3 in. deep, and 30 to 40 ft. wide.
- 9½     River 35 ft. wide.
- 10½    **Tiaokiapu**, P. (300 or 400 houses), on r. River 2 ft. deep. Stone bridge, single span, 15 ft. wide, 13 ft. high, at place where river narrows to 20 ft. Towpath on l.
- 11½    River 1 ft. 4 in. deep, 15 to 20 yds. wide.
- 12     Ferry. River 4 ft. 8 in. deep.
- 12½    River 2 ft. deep, 30 yds. wide.
- 12¾    **Nan-miao-t'ang** (3 houses), on l. Plank and earth bridge on ten trestles; centre span 15 ft. wide, 13 ft. high. River 25 to 30 yds. broad, 3 ft. 8 in. deep.
- 14½    **Miao-wan** (200 houses), on l., with bridge of 5 trestles, centre span 13 ft. high, 15 ft. wide. River 25 to 30 yds. wide. Depth below, 3 ft. 9 in., increasing to 8 ft. River makes an almost circular bend.
- 15½    Stream from Taihing, P. T. (about 25 miles distant), comes in on r.  
River becomes straighter.
- 16     **Shih-fang-k'ou** (90 houses), on both banks. River 25 to 30 yds. wide. Wooden bridge standing on two

miles

- stone piers and three wooden trestles ; centre span 15 ft. high and of equal width.
- 16 $\frac{1}{4}$      *Shih Ho*, a small creek, joining on l.
- 17     **T'êng-chia-ch'i** (15 houses), on r. A ferry.
- 17 $\frac{1}{4}$      **Shih-li-p'u** (50 houses), on r.
- 18 $\frac{1}{2}$      **Li-chia-chuang** (70 houses), on l., 200 yds. below which a partially dammed creek, the *Lao-hu-pa*, joins in on l.
- 18 $\frac{3}{4}$      River 35 yds. wide, 4 ft. 6 in. deep.
- 19     **Wang-shih-liu** (30 houses), 100 yds. from r.
- 19 $\frac{3}{4}$      **Chang-chia-pao** (50 houses), on r.
- 20 $\frac{1}{2}$      *Pao-tai-ch'iao*, a stone bridge over river, with movable planks as roadway. It is in a rather dilapidated state, and is of single span, about 14 ft. wide and of equal height. 200 yds. below bridge river widens to from 30 to 35 yds. Main road crosses to r., and goes some way from river. Smaller wheelbarrow road along l. A great many side-creeks give into the river, those on l. mostly dammed.
- 21     **TAICHOW KU**, P. T., an important city (see *Gazetteer*). South suburb on the *Li Ho* (or *Yen Ho*). The entrance to the *Kuo Ho* (or *Kowan Creek*) is blocked by the *T'êng-chia-pa* dam. It is of earth, and is used as a roadway, 27 yds. long by 12 yds. wide, with a barricade of planks on either side.
- River at end 15 to 20 yds. wide and 8 ft. deep, flowing between 12-ft. banks. Towing chiefly on l., on which side are some fair 5- to 8-ft. wheelbarrow roads.

(C) ALTERNATIVE WATER ROUTE (31 $\frac{3}{4}$  miles)

General direction, first NW. to Yen-k'ou, then E. to Taichow Ku.

This is a route by which boats starting from Kowan can ascend the *Kuo Ho* as far as *Shih-fang-k'ou*, and then instead of continuing N., go NW. up the *Shih Ho* for 9 $\frac{1}{2}$  miles, entering the *Li Ho* at Yen-k'ou. From here Taichow Ku can be



reached without having to encounter the T'êng-chia-pa dam which blocks the entrance from the Kuo Ho into the Li Ho. In February, when the water is still low, the depth in parts is no more than 8 in., and for some distance only 1 ft. In places there is not even room for two comparatively small boats (7 ft. wide) to pass.

The Shih Ho flows S. from the Li Ho at Yen-k'ou, and turns east just before reaching Ch'ien-yen-t'a, joining the *Kuo Ho* 200 or 300 yds. above the bridge at Shih-fang-k'ou.

Towpaths mostly on l. of Shih Ho; but as there are many unbridged side-creeks (or short irrigating channels) there are constant interruptions to towing. The Li Ho has a regular towpath along the north bank, and the side-creeks are bridged. Bridges over the Shih Ho have all a span of 10 ft. and an equal height above the water-level. Most of them are built of wood and earth on two wooden trestles. The country traversed by the Shih Ho is everywhere under cultivation, and villages (surrounded by trees) are numerous. It is the same along the Li Ho up to Taichow Ku. Country along both rivers 10 to 12 ft. above water-level. Many side-creeks join both the Shih Ho and Li Ho, and the country is a network of rivers and canals.

miles

- |     |   |
|-----|---|
| 0   | <b>Lung-wo-k'ou.</b><br>For details to mile 16 see Alternative Route B.   |
| 16  | <b>Shih-fang-k'ou</b> , 5 miles below the <i>T'êng-chia-pa</i> dam. Two or three hundred yards above the bridge at Shih-fang-k'ou the <i>Shih Ho</i> flows from the WNW. into the <i>Kuo Ho</i> , under a broken bridge. Shih Ho is 15 to 20 yds. wide, and 4 ft. deep. |
| 16½ | Stone bridge with roadway of three stones, each 12 ft. long and 2 ft. wide, laid alongside each other.  |
| 17¼ | <b>Ya-chuang</b> (50 houses), on r. Two trestle bridges below the village. River 5 ft. deep.  |
| 18¾ | River 2 ft. deep.<br><b>Yen-t'a</b> , a straggling village, said to have over 1,000 houses, ¼ mile to north.  |

miles

- 19½ **Ch'ien-yen-t'a** (pronounced locally Ch'i-yen-t'an), 200 houses, on r., surrounded by creeks.
- 20¼ Trestle bridge.
- 20½ **Pien-chia-ch'iao** (pronounced locally P'an-chia-ch'iao); 100 houses, mostly on l. (west), with a trestle bridge.
- 21¼ River 20 to 30 ft. wide, 1 ft. 4 in. deep. Towpath on r.
- 21½ River 15 to 20 ft. wide.
- 22 Ferry. **T'ang-tzu** (100 houses), on l. As it passes this place the river bends to east and then turns north. River 8 in. deep for about 300 yds. opposite village, then mostly 1 ft. Trestle bridge over river, which then narrows to from 10 to 15 ft.
- 23¼ Trestle bridge. River turns east for 200 or 300-yds. **Yü-chia-fên** (300 houses), ¼ mile to north. River again turns north, 20 to 30 ft. wide, and deeper.
- 24¼ **Ni-chia-chiang** (pronounced locally Ni-chia-gang), 50 houses, with a trestle bridge. River 30 to 40 ft. wide, 2 ft. 7 in. deep.
- 25½ **Yen-k'ou** (pronounced locally Ying-k'ou), 10 houses on r., with a trestle bridge. River 1 ft. 8 in. deep. Here the *Shih Ho* joins the *Li Ho*, which is 35 to 40 yds. wide, and 8 ft. 1 in. deep. Towpath along north bank, where are numerous side-creeks, all bridged; those on south bank mostly unbridged. Country about 12 ft. above level of river, with many villages among trees. Direction east. Single telegraph wire to Yangchow, near south bank.
- 26 **Shên-chia-tu** (100 houses), on l. Ferry.
- 27¼ **Chiu-li-kou** (100 houses), on l., with a ferry.
- A creek (*Ta Ho*) runs NE. from here, connecting with the *Yen Ho* (No. 2) W. of **Chao-kung-ch'iao**. The latter is 4 miles distant, and 1 from the North Gate of Taichow Ku. The *Yen Ho* (No. 2) has a further connexion with Taichow Ku by a creek from **T'ai-**

miles

**chia-shih**, 1 mile east of **Chao-kung-ch'iao**, ending at the **Pao-chia-pa** dam, opposite the **East Gate**. See **Route 24 B**.

28  $\frac{3}{4}$ 

**Ta-p'u-k'ou** on l., where moat round west side of **Taichow Ku** branches off to north. The **Li Ho** continues for  $\frac{3}{4}$  mile to the **T'êng-chia-pa** dam, nearly due south of the **South Gate** of **Taichow Ku**. The **Li Ho** is crossed by a stone bridge about 100 yds. to the west of the **T'êng-chia-pa** dam.

31  $\frac{3}{4}$  1

**TAICHOW KU**, P. T. (see *Gazetteer*). Route ends at **North Gate** of city.

## ROUTE 24

### TAICHOW KU TO YENCHENG KU

*Authorities*: G. E. Pereira, Feb. 1908; War Office MS. maps of N. Kiangsu.

There are several alternative water routes, the most important being :

#### (A) BY THE TA HO (about 76 miles)

General direction NNE. This is the most direct route. The **Ta Ho** (or **Ch'êng Ho**) leaves the **Li Ho** at **Chiu-li-kou** ( $1\frac{1}{2}$  miles W. of **Taichow Ku**) and is here separated from it by a stone dam so that boats cannot pass from one to the other (communication may be possible through side-creeks?). The river is always navigable.

miles  
(approx.)

0

**Chiu-li-kou** ( $1\frac{1}{2}$  miles W. of **Taichow Ku**).

2

Here the **Yen Ho** (No. 2) branches off east to **Chao-kung-ch'iao** 1 mile north of the **North Gate** of **Taichow Ku** (see **Route 24 B**).

5

**Kangmen**, P.

15

**Chu-chia-chuang**.

From **Yen-k'ou** to **Taichow Ku** distances have been measured on the map. According to Pereira, **Yen-k'ou** to **Shên-chia-tu** is  $\frac{1}{4}$  mile, **Shên-chia-tu** to **Chiu-li-kou**  $1\frac{1}{4}$  miles, and the total route  $32\frac{1}{4}$  miles.

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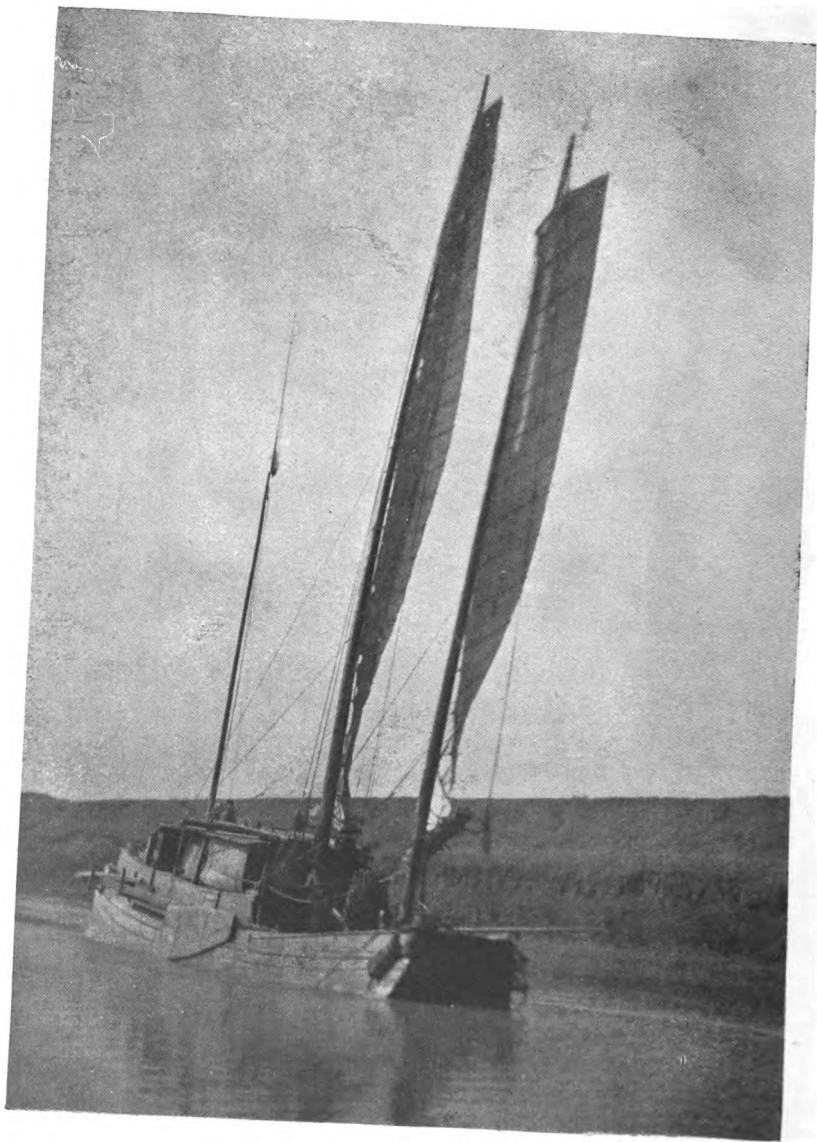
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**SALT-BOAT**

miles (approx.)	
36 <sup>1</sup>	<b>Hinghwa, P. T.</b>
51½	The creek enters and crosses the SE. corner of the <i>Ta-tsung</i> Lake.
58½	Route leaves the lake, turning NE.
69½	The <i>Tung-kuan Ho</i> , a creek, flows in on r.
71¾	<b>Kangkow, P.</b> , on l.
76	<b>YENCHENG KU</b> , P. (see <i>Gazetteer</i> ). The <i>Ta Ho</i> flows into the <i>Ch'uan-ch'ang Ho</i> , near W. Gate.

(B) BY THE YEN HO (No. 2)<sup>2</sup> (about 94 miles)

The Yen Ho (No. 2) branches off from the Ta Ho 2 miles N. of Chiu-li-kou (see Route 24 A), about 21 miles E. of Shaopo, as the crow flies. The stone dam at Chiu-li-kou prevents direct communication with the Li Ho and the city of Taichow Ku. After its separation from the Ta Ho the Yen Ho (No. 2) runs east and passes through Chao-kung-ch'iao, the port of Taichow Ku, about 1 mile N. of the North Gate, and 4 miles from Chiu-li-kou. Steam-launches to Yencheng Ku start from here and run regularly all the year round. Many salt boats. The river is said not to freeze in winter.

This route includes the following sections :

(1) *Taichow Ku to Tsintung* (about 20 miles)

Direction NE.

miles (approx.)	
0	<b>Chao-kung-ch'iao</b> , port on the Yen Ho (No. 2), 1 mile north of <b>Taichow Ku</b> .
1	<b>T'ai-chia-shih</b> , a creek connects with E. gate.
10	<b>Yüsi, P.</b> , on l.
20	<b>Tsintung, P.</b> (over 2,000 houses) on l. The <i>Huang-ts'un Ho</i> runs in from the south (see Route 24 C, mile 32¼). Another creek goes north to Hinghwa.

<sup>1</sup> According to Pereira the distance to Hinghwa is 39 miles.

<sup>2</sup> This creek is called *Yen Ho* (No. 2) to distinguish it from the *Yen Ho* (No. 1), described in Route 28 A. The name *Yen Ho* (Salt River, i. e. river used by salt-boats) is also sometimes given to the *Li Ho* (see Route 22).

(2) *Tsintung to Tungtaihsien* (21½ miles)

General direction NE.; along the Yen Ho (No. 2). The water is clear and there is no current. For the first 2½ miles it varies in width from 80 to 120 yds.; afterwards from 50 to 60 yds. Its depth is from 5½ to 10½ ft.; but it is for the most part over 8 ft. For the first 7 miles the surrounding country is from 1 to 3 ft. above the level of the water. On either side are rice-fields or reeds, with villages behind, some 2 miles distant. Subsequently the level of the country rises to 4 ft. above water-level, and villages near the bank become more numerous. Side-creeks unbridged and fewer.

miles

- |     |  |
|-----|--|
| 20  | <b>Tsintung, P.</b> River 120 to 150 yds. wide; 8 ft. deep. Many unbridged creeks on either bank, and no towpath. Boats sail or are poled. Many small boats, and a certain number of salt-boats for Taichow Ku. Rice-fields 4 ft. above river-level on l.; on r. only a few inches and country covered with reeds. Floods when water high. |
| 21  | River 80 to 100 yds. wide.   |
| 21½ | Rice-fields on r., 3 ft. above water-level; reeds and low-lying country on l.  |
| 22¼ | <b>Ch'ing-p'u</b> (65 houses), on r. River 200 yds. wide. Mostly reeds and low-lying country on both banks. River 50 yds. wide, 5 ft. 6 in. deep.  |
| 23  | A creek 50 yds. wide continues ENE. to Wu-fang and Fuan Ku, P. Route turns N. Banks and country 1 to 3 ft. above river-level; mostly rice-fields on l., reeds on r.  |
| 24¼ | River 10 ft. deep. Creek, 40 yds. wide, comes in from NW.  |
| 24¾ | Belt of rice near r., with reeds behind, extending for about a couple of miles. River 80 yds. wide, and at this point another creek, 40 yds. wide, comes in from north.  |

miles

- 25 River 8 ft. 9 in. deep. **Ts'ao-yeh-chuang** (locally called So-sa), 500 houses, some of brick, on r. Three small creeks, crossed by trestle bridges with planks, come through town.
- 25½ Country and banks 3 or 4 ft. above river-level. Reeds ½ mile from r.
- 27 River from Hinghwa, bearing 278°, goes east to Fuan Ku and the sea.  
Yen Ho (No. 2) 60 yds. wide, 8 ft. 6 in. deep. Reeds no longer visible from banks.
- 27½ **Huang-pei-ch'ung** (Huang-bok-sung), 20 houses, on l. **T'ao-shu-chuang** (80 houses), ¼ mile from r. on Hinghwa to Fuan Ku creek.
- 28½ **Shihyen**, P. (200 houses), a steam-launch station, with an inner harbour on r. Bridge over a creek in town. River 10 ft. 5 in. deep. Country now mostly 4 ft. above river-level on l., and 3 ft. (with 6 ft. embankment) on r. Side-creeks fewer and unbridged. Towing again possible, chiefly on l. Villages more numerous, usually about a mile from banks.
- 29½ **Ch'i-chia-lou** (Ch'ih-chia-no), 80 houses, 100 yds. from r. River 10 ft. deep.
- 30½ River 11 ft. 2 in. deep.
- 31½ **Hsin-pa-chia**, village of 24 houses, on r., with plank bridge over a side-creek extending inland for ½ mile. (It is said to be 32 li from Tsintung and 28 li from Tungtaihsien.)  
River 60-65 yds. wide; 6 to 8 ft. embankment, about 20 ft. wide, and sloping away from river along r., followed by towpath. Smaller embankment in places along l. Country 4 ft. above river-level, and cultivated with rice. Scattered villages. Fewer side-creeks (more on l. than on r.), still unbridged.
- 32½ **Wu-chia-to** (60 houses), ½ mile from r. River 8 ft. 8 in. deep.
- 32½ Unbridged creek, 15 yds. wide, on r.



miles

- 33 Unbridged creek, 20 yds. wide, on r.
- 33½ **Kuo-chia-pao** (80 houses), 500 yds. from l. River 8 ft. 5 in. deep. Unbridged creek on r., 15 yds. wide.
- 33¾ Unbridged creek on r., 20 yds. wide.
- 34 River 6 ft. 3 in. deep in centre ; deeper near l. In next 700 yds. are three unbridged creeks, each 20 yds. wide, on r.
- 34¾ **Ts'ao-yin-tu** (20 houses), on r.
- 35¼ Two unbridged creeks (15 and 20 yds. wide) on r. River 6 ft. 10 in. deep in centre ; deeper on l.
- 35¾ Creek 20 yds. wide on r., crossed by plank and trestle bridge. **Hsia-chia-shê** (called locally *Hsia-ga-sa*), 20 houses, 300 yds. from r. River 9 ft. 2 in. deep on l.
- 36½ Unbridged creek on r., 15 yds. wide. River 9 ft. 8 in. deep in centre. Towpath on l. for rest of way. Unbridged creeks more numerous on r.
- 36¾ *Liang-to Ho*, 40 yds. wide, flows SW. to *Liang-to* into the *Ch'uan-ch'ang Ho*, which joins the *Li Ho* at *Haian*.
- 37¼ **Yin-chuang** (60 houses), on l. Cross side-creek, 12 yds. wide, by single-arch stone bridge. River 50 yds. wide. Embankment, 10 ft. high, along r., up to *Tungtaihsien*. Crops in field are wheat, beans, &c. Villages numerous.
- 38 Plank bridge on l. over side-creek, 20 yds. wide.  
**Ch'ih-lang-chuang** (40 houses), 100 yds. l. River 8 ft. 2 in. deep.
- 38½ Cross side-creek, 10 yds. wide, by plank bridge on three trestles. River 60 yds. wide.
- 38¾ **Hsü-chia-shê** (called locally *Ch'u-chia-sa*), 40 houses, 400 yds. l.
- 39 Country on l. 8 ft. above river-level. Plank and trestle bridge on l. over *Hsi-ch'i* creek, which rejoins *Yen Ho* (No. 2) 2½ miles farther on. It is crossed by a stone bridge about ¼ mile farther up.

miles

- 39½ Seven-storied pagoda (rather decayed) near l. **Hsi-ch'i** (200 houses), 200 yds. from l., with large *T'ai-shan-miao* temple. Yen Ho (No. 2) 50-60 yds. wide, 8 ft. 5 in. deep.
- 40¼ River 9 ft. deep. Unbridged creek, 10 yds. wide, on l.
- 40½ Yen Ho (No. 2) here bifurcates, one branch going NE. and joining the *Ch'uan-ch'ang Ho* at the SW. corner of Tungtaihsien, subsequently turning south to Fuan Ku and Haian, where it joins the *Li Ho*. The other branch, which is that followed by this route and by boats going north, goes NW.
- 41¼ Yen Ho (No. 2) rejoined by *Hsi-ch'i* creek, here 40 yds. wide, and crossed by a plank bridge on five trestles. Direction NE.
- 41½ **Tungtaihsien**, P. T. Yen Ho (No. 2) joins the *Ch'uan-ch'ang Ho* which then flows north to Yencheng Ku. The junction is on the NW. side of the city, to reach which boats ascend the *Ch'uan-ch'ang Ho*, here 15 yds. wide, 6 ft. 3 in. deep. Direction NE. for ½ mile through the city, passing under two plank bridges. It follows a winding course from here, and is some 30 yds. wide, and of varying depths. It is crowded with boats (see *Gazetteer*).

(3) *Tungtaihsien to Yencheng Ku* (52½ miles)

(For details see Route 21 B, sections 3 to 5.)

(C) **BY THE LI HO AND HUANG-TS'UN HO** (106¼ miles)

This route is longer but avoids rivers with dams. It joins Route B at **Tsintung**.

(1) *Taichow Ku to Huang-ts'un* (19 miles)

Direction eastwards along the *Li Ho*. The river is for the most part some 35 yds. wide, and from 5 to 6½ ft. deep. The water is muddy and there is no current. The country

is about 12 ft. above the level of the water ; for the last  $4\frac{1}{2}$  miles, 8 to 10 ft., with an additional embankment, 3 to 4 ft. high. The land is highly cultivated, and there are many villages surrounded by trees, joined to one another by wheelbarrow tracks. There are many subsidiary channels, either giving into the Li Ho or separated from it by dams. The towpath, which as far as Tangwan is on the S. bank, and afterwards on the N., is carried over the many creeks by roughly constructed plank bridges incapable of bearing any great weight. The houses in the villages are of mud, and thatched ; in small towns they are of brick with tiled roofs.

Land transport for the most part by wheelbarrow ; but there are a few two-wheeled carts. There are many boats on the river. A single telegraph wire runs along the S. bank to Yangchow.

miles

- |                 |   |
|-----------------|---|
| 0               | <b>TAICHOW KU</b> , P.T., <i>North Gate</i> . Route follows the moat (known as the <i>T'ien-tzū Ho</i> ) eastwards, from the North Gate. Current flows to the east. Moat about 150 yds. wide.   |
| 1               | NE. corner of city. Direction south. Moat 7 ft. 4 in. deep in centre. Beyond graves on l., flat, cultivated plain, with many villages among trees.  |
| 1 $\frac{3}{4}$ | Broad dam of earth, with roadway across moat from East Gate. <i>T'ien-tzū Ho</i> has a channel making a semicircular bend round east side of this dam, passing <b>Pao-chia-pa</b> on left (about 300 yds. from East Gate), a village of about 200 houses. |
|                 | <i>T'ien-tzū Ho</i> , 5 ft. deep, passes under a single-arch stone bridge, 20 ft. wide, and 24 ft. high, and rejoins city moat below the dam.   |
|                 | Along the moat, nearly to South Gate, just before reaching which the main channel turns south and joins the Li Ho opposite  |
| 3               | <i>T'ien-tzū Temple</i> , about $\frac{1}{2}$ mile south of the South Gate. Just before entering the Li Ho, channel passes  |

miles

under a bridge with two stone piers, 18 ft. span and 20 ft. high.

Direction E. along the Li Ho, which is about 35 yds. wide, water rather muddy, 6 ft. 3 in. deep. Towpath on south, through suburb.

4½ **Lien-hua-ch'ih** (called locally Ni-hua-tzü), a straggling village of about 200 houses, on both banks; with a ferry. River 6 ft. deep.

6¼ Unbridged creek, on south bank.

7½ A ferry. **Ts'ao-yü-chuang** (50 houses), on south bank.

8½ **Tangwan, P.** (200 houses), on both banks.

Towpath on north bank, up to Huang-ts'un.

10 **Chiang-chia-ho** (40 houses), on north bank.

11 **Lu-chia-ho** (40 houses), on south bank. A ferry.

11½ **T'ao-chia-chuang** (100 houses), 100 yds. to NNE.

12¼ **Ta-fêng-tien** (200 houses), on both banks. Ferry.

14½ **Hsiao-fêng-tien** (50 houses), on north bank. Ferry.

15 Ferry over entrance to side-creek, on north bank.

16 **Lung-ching-ch'an-yüan**, temple on north bank. Ferry.

17 Ferry.

17½ Two unbridged creeks, on north bank.

Houses from here continuous along south bank to Huang-ts'un.

18 Unbridged creek, on north bank, with ferry.

19 **Huang-ts'un** (about 100 houses), on both banks of the Li Ho.

## (2) *Huang-ts'un to Tsintung* (13¼ miles)

Direction N. Route is along the *Huang-ts'un Ho*, which for 9½ miles flows N. From this point there is no appreciable current, and the water becomes clear. The river for the first 5¼ miles is 40 to 45 ft. wide; banks and surrounding country 8 to 12 ft. above water-level. For the next 2½ miles the

width is from 60 to 120 ft., and the height of banks 3 to 4 ft. For the rest of this section, in consequence of the banks being only 3 to 4 in. high, the country is continually being flooded, at times becoming practically a lake. Towing becomes impossible for the last 4 miles. At first there is a towpath, sometimes on one side and sometimes on the other. The side-creeks are either dry or crossed by a plank and trestle bridge 40 to 45 ft. long. The path after 8 miles degenerates into a narrow track, finally disappearing, and the creeks are unbridged.

The river itself is crossed by several trestle bridges, with roadways of planks; centre span 15 ft. long and 10 ft. high, capable of removal to admit of the passage of larger boats.

In the first part of this section the character of the surrounding country is similar to that in the preceding one. From the ninth mile onwards it changes considerably. The low-lying region of the *Hsia-ho* is reached. There are no villages within a couple of miles of the banks, and the country is all under rice or reeds.

The houses in the towns and villages are similar to those in Section 1. Bullocks, pigs, and fowls are plentiful. A few farm-carts might be obtained in the villages near Huang-ts'un.

In very severe winters the Huang-ts'un Ho is frozen, and traffic suspended.

miles

- |     |  |
|-----|--|
| 19  | <b>Huang-ts'un.</b> The route leaves the <i>Li Ho</i> , which continues east to Kiangyen and Tungchow (see Route 22), and turns north into the <i>Huang-ts'un Ho</i> . No dam at entrance, but there is a weakly constructed plank and trestle bridge. |
| 20  | River 2 ft. 8 in. deep.  |
| 20½ | Plank bridge, on five trestles, over river.  |
|     | <b>Shih-chia-tai</b> (50 houses), 100 yds. to l.   |
| 20¾ | River 2 ft. 8 in. deep.  |
| 21½ | <b>Shou-shêng-ssü</b> (100 houses, mostly brick), on r.  |
|     | A plank bridge, on six trestles, over river, 4 ft. 2 in. deep.   |

miles

22

River bends east.

A creek, 30 ft. wide, connecting with the *Hsia Ho* at Pao-chia-pa<sup>1</sup> (opposite East Gate of Taichow Ku) comes in on west.

22½

Plank bridge on four trestles over river, here 4 ft. 2 in. deep. Country now 8 ft. above river-level. Towpath on l.

22½

Creek, 25 ft. wide, goes east 3½ miles to **Kiangyen**.

Direction north. River 40 ft. wide.

23½

Plank bridge on five trestles over river.

**Ya-kou-t'ou** (50 houses), on both banks. River 3 ft. 4 in. deep.

24

Ferry. River 60 to 70 ft. wide. Towpath on r.

24½

Country here rice-fields, and 3 or 4 ft. above river-level. Villages a couple of miles away. Narrow track along banks. River 100 ft. wide.

Another large creek on l. from Pao-chia-pa. Side-creeks every 300 or 400 yds. on either bank, all unbridged, and from 60 to 120 ft. wide.

**Hung-chia-chuang** (150 houses), ¾ mile to r.

25¾

River 8 ft. deep.

26½

**Hsiao-yang-chuang** (50 houses), ½ mile up creek to west.

26¾

Country on r. (and in places on l.) only a few inches above river-level, covered with reeds, and flooded in rainy season.

27½

River 100 to 120 ft. wide. **Huang-t'ien-ts'ao-tang** (5 houses), on r. Low-lying country covered with reeds on l. Main channel makes a bend west for 200 yds., then turns north again; smaller channel goes on straight.

28

River 75-90 ft. wide, 3 ft. 7 in. deep.

28½

Small channel rejoins main river, here 100-120 ft. wide.

<sup>1</sup> All or most of larger creeks coming in on west are said to connect with Pao-chia-pa.

miles

28½

Rice-fields, and country 3 or 4 ft. above river-level. Marsh extends westwards a short way from l. Side-creeks increase in number, and towing rarely possible up to Tsintung. River 6 ft. 10 in. deep, clear water, and no current. Villages in distance.

29½

**Hu-nan-chuang** (150 huts), on l. River 7 ft. deep and opens out to 100 yds. and over in width, between marsh and reeds.

30

River widens to over a mile. Villages about 4 miles distant on r.

30½

**Hu-hsi-chuang** (150 houses), 1 mile to l. River 4 ft. 4 in. deep, again narrows to 120 ft. between reeds and marsh.

30¾

**Hu-pei-k'ou** (100 houses), ½ mile to l. River 180 ft. wide. Route is to r. of reeds in centre of channel.

31½

River makes a bend to r. ; 120 ft. wide, 9 ft. deep, through rice-fields. Villages 4 miles to r.

32½

**Tsintung, P.** (over 2,000 houses), on l. Huang-ts'un Ho here joins *Yen Ho* (No. 2).

(3) *Tsintung* to *Yencheng Ku* (74 miles)

Beyond **Tsintung** the route is identical with Route 24 B, sections 2 and 3.

## ROUTE 25

### YENCHENG KU TO THE GRAND CANAL AND TO THE SEA

*Authorities*: G. E. Pereira, 1908; War Office MS. maps of N. Kiangsu.

From *Yencheng Ku* the Grand Canal can be reached by water, either at **Liu-cha** (8 miles N. of **Yangchow**) or near **Hwaiianfu**.

## (A) YENCHENG KU TO LIU-CHA

General direction SSW. This route is via **Taichow Ku** (see Route 24) and from there to **Liu-cha** (see Route 22, mile 98½). N.B. by following Route 24 C rivers with dams are avoided.

The distances are: by Route 24 A, about 105 miles; by Route 24 B, about 127 miles; by Route 24 C, 135 miles.

## (B) YENCHENG KU TO HWAIANFU (about 77 miles)

General direction westerly. For the first 16½ miles (i. e. to a point ¾ mile SW. of Shang kang) the route is identical with Route 21 B, section 6. It lies along the *Ch'uan-ch'ang Ho* for the first 2½ miles; then along the *Shangkang Ho* for the next 14 miles; and beyond Shang kang on the *Ta-shih-wan Ho*.

miles

(approx.)

0

**YENCHENG KU**, P. (see Route 21 B, sect. 6).

16½

About ¾ mile SW. of **Shangkang**, P., the *Ta-shih-wan Ho* is entered. Width 30 yds. Direction WSW.

Beyond this stage no details are available, but the river is to some extent navigable and probably follows the course detailed below.

25½

Route turns S.

28½

Route turns W.

31½

**Hu-to**, on l. Route bends S. for 1 mile, then W. again.

35½

Route bends S.

37

**Hungkiao Ku N**, P., on r. Route turns W.

41½

**T'ing-ta-ch'iao**, on r.

42½

*Ta-tsung* Lake is entered beyond bridge. Direction W.

47½

Route leaves lake and enters creek at W. of spit of land. Another creek leaves the lake 2 miles farther S., also leading to Grand Canal.

53½

**Liu-chun-kou**, on r.

54½

Route bends N. for 1 mile.



miles (approx.)	
55½	Route turns W. and joins creek from Fowning (see Route 26 B, mile 41).
60½	<b>Ching-k'ou.</b>
73½	Route turns S.
74½	<b>HWAIANFU</b> , P. T. (see <i>Gazetteer</i> ). <i>East Gate</i> Creek winds along E and S. walls.
77	Creek enters Grand Canal S. of Hwaiianfu.

(C) ALTERNATIVE ROUTE TO HWAIANFU (about 105 miles)

Instead of turning W. at **Shangkang** continue north to **Fowning** (Route 21 B, section 6), and from there to **Hwaiianfu** by the *Shê-yang Ho* (see Route 26 B).

(D) YENCHENG KU TO THE SEA (25 miles, crow-fly ;  
actual distance by water 61 miles)

By the Yang-k'ou Ho ; the river is winding, but navigable at all times. Sea-going junks from Manchuria, Shantung, and Shanghai regularly sail up the river, from its mouth at **Hai-k'ou** to **Li-yang-k'ou**, a place about  $\frac{3}{4}$  mile from the North Gate of **Yencheng Ku**. About a mile farther NW., near the village of Cha-k'ou, it is divided from the Ch'uan-ch'ang Ho by a lock (see Route 21 B, section 6, mile 139).

A straight road on S. of creek connects Yencheng Ku with Hai-k'ou.

miles	
0	<b>Li-yang-k'ou</b> ( $\frac{3}{4}$ mile N. of <b>YENCHENG KU</b> , P.).
8½	<b>Pei-yang</b> , $\frac{3}{4}$ mile on l.
11½	<b>Nan-yang</b> , on r.
49½	<b>Ju-i-kang</b> , on r.
55	Creek broadens out into an estuary.
56	<b>Hai-k'ou</b> . Sea about 5 miles farther E.

## ROUTE 26

## FOWNING TO THE GRAND CANAL AND TO THE SEA

*Authorities* : G. E. Pereira, 1908 ; War Office MS. maps of N. Kiangsu.

The Grand Canal can be reached either at Liu-cha (8 miles N. of Yangchow) or near Hwaiianfu.

## (A) FOWNING TO LIU-CHA

General direction S. This route is via Yencheng Ku (see Route 21 B, section 6) and Taichow Ku (see Route 25 A).

Distances : by Route 24 A, about 148 miles ; by Route 24 B, about 170 miles ; by Route 24 C, 177 miles.

## (B) FOWNING TO HWAIAINFU (about 62½ miles)

General direction WSW. Distance by land estimated at 150 li, say 50 miles. The present route lies along the Shê-yang Ho, which leaves the Grand Canal near Hwaiianfu. From April to August boats of 4 to 5 ft. draught are able to ascend from Fowning to Hwaiianfu, but no details available. The river is said never to be closed by ice. The following itinerary is based on maps and is only tentative.

miles (approx.)	
0	<b>FOWNING</b> , P. (see <i>Gazetteer</i> ). From the South Gate along the <i>Shê-yang Ho</i> , a winding river 150 to 200 yds. wide. Direction W.
2½	Creek winds S.
12½	<b>San-chi</b> .
16½	<b>Mêng-lung</b> . General direction W.
22½	<b>Tungkow</b> , P.
28	<b>Yen-lin</b> .
35½	<b>Tsê-kou</b> .
36	Creek enters <i>Ta-tsung</i> Lake and crosses N. end of it.
37	Route leaves the lake by a creek.

miles (approx.)	
41	Route joins creek from Yencheng Ku. For details beyond mile 41 see Route 25 B, mile 55½.
62½	<b>HWAIAFU</b> , P. T.

## (C) FOWNING TO THE SEA (about 76 miles ?)

Along the Shê-yang Ho. From April to August sea-going junks come up to Fowning, but for the rest of the year they are unable to do so.

miles (approx.)	
0	<b>FOWNING</b> , P. Direction E., then ENE. Creek winds considerably.
17	<b>Mu-chia-chiang</b> , about 1½ miles N.
24½	Sharp turn S. General direction now SE.
31	<b>Chêng-hsiang-chiang</b> .
63	<b>Hsiao-hai</b> , on l.
76	<i>Hai-shan-miao</i> , a temple. Creek opens into the sea.

## ROUTE 27

## FOWNING TO HAICHOW

*Authorities* : G. E. Pereira, February and March, 1908 ; Survey by G. E. Pereira and Dan Sing, 1908.

## (A) LAND ROUTE (83½ miles)

General direction NNW. The road averages in width from 3 to 6 ft., but is in places as broad as 12 and as narrow as 3 ft. Occasionally it degenerates into a mere footpath, practicable only for wheelbarrow traffic. It is nowhere metalled, and in many places, after heavy rain, it becomes almost impassable.

The country S. of Haichow is liable to flood between July and the end of September as far down as Shuyang.

The road throughout its length lies in a fertile, cultivated plain, dotted with villages.

The former bed of the *Yellow River*, now dry and under cultivation, forms a dividing line between the plains extending northward to Peking and the low-lying country, intersected by waterways, between it and the Yangtse.

In the northern section of the route, isolated hills, 300-500 ft. high, are to be seen, and 1 mile S. of Haichow is the Haichow Shan (800 ft. ?), a rocky eminence some three miles long.

Spring wheat forms the first crop, and is followed by beans, kaoliang, millet, and maize for the second. In the northern section, where the country is liable to flood, the only crop possible is spring wheat.

Houses in the villages are of mud, with thatched roofs, and, except in towns, are detached from one another.

Wheelbarrows form the chief means of transport. There are also a few pack-donkeys and many bullocks and water-buffaloes. A certain number of two-wheeled farm-carts are obtainable.

miles

0

**FOWNING, P.** (see *Gazetteer*). Leaving the South Gate, route leads to the West Gate, about 700 yds. distant, and for  $\frac{1}{2}$  mile through west suburb. The latter is surrounded by a 20-ft. bank with a stream beyond, 12 ft. broad, which continues as a moat along the north side of the city. Small boats ply on it.

Leaving gate of west suburb, route crosses this stream by a wooden bridge, and continues NW. across a fertile plain, at present under spring wheat, with many small villages. Heavy 6-ft. road, nearly impassable for wheelbarrows after one day's rain.

1 $\frac{1}{2}$

Route follows l. bank of *Ch'uan-li Ho* (called locally Tso-lai Hoo), which flows SE. into the *Shê-yang Ho*. Banks 6 ft. high, fairly clear water. River 20 ft. wide, and 2 ft. deep for first 8 $\frac{3}{4}$  miles.

2 $\frac{1}{4}$

**San-yang-chuang** (20 scattered houses), on l. bank.

3 $\frac{1}{2}$

Road becomes a narrow path along l. bank, some-

miles

times crossing small side streams by bridges, sometimes descending into and crossing them when nearly dry or when banked up.

4 $\frac{1}{4}$  **Tai-chia-chuang** (30 houses), 200 yds. to N.

5 $\frac{1}{2}$  **Liu-chia-tsao** (40 houses), on r.

6 $\frac{1}{2}$  Wooden bridge on two trestles across river.

7 $\frac{1}{4}$  **T'ang-ch'êng** (150 houses), on l. bank.

8 $\frac{1}{4}$  Eastern **Shih-chia-chuang** (80 houses), a mile to N. A shallow canal, 12 ft. wide, crosses at right angles.

8 $\frac{3}{4}$  **Wan-chia-tsui** (40 houses), on l. bank. River 1 $\frac{1}{2}$  ft. deep.

9 $\frac{1}{2}$  Western **Shih-chia-chuang** (80 houses), a mile to N.

10 $\frac{1}{2}$  **Ta-shih-chuang** (120 scattered houses),  $\frac{1}{4}$  mile to S.

13 **Hsi-chuang** on l. bank, and **Tung-chuang** on r., comprising together about 40 huts.

13 $\frac{1}{2}$  **Ma-ch'i-ying** (20 houses).

13 $\frac{3}{4}$  Route crosses *Ch'uan-li Ho*, which turns NE., by a wooden trestle bridge. The outer embankment of the old *Yellow River*, curving for a short distance about a bend, is next crossed. It is about 20 ft. high, and 20 yds. wide at the top, with some huts. Sides cultivated.

Route descends embankment to the W., and crosses marshy ground between outer and main south embankment, passing through **Ma-kung-t'ou** (50 houses), on another smaller embankment.

14 $\frac{1}{2}$  Main south embankment of the old *Yellow River*. Top and sides cultivated. A rather heavy 6-ft. road runs along it. It is about 40 ft. high and 20 yds. wide. River-bed is partly cultivated, partly waste; with a channel of still water, 40 ft. wide, and shallow, near south embankment.

15 $\frac{1}{4}$  **Pai-sha** (called locally Bok-sa), about 400 houses. Western end of embankment, eastern end below it. There was, in 1908, a detachment of infantry (Hsün-

miles

fang Tui) from Tsingkiangpu. Direction NW. along heavy 6-ft. road on southern embankment for 1,200 yds. Then across bed of old *Yellow River*, about 1,200 yds. wide, and 20-30 ft. below embankment on either side, mostly under cultivation. Channel, 40 ft. wide, of still water, crossed by a low brushwood bridge.

17 Reach northern embankment, about 20-30 ft. high. An outer, circular embankment, about 20 ft. high,  $\frac{1}{2}$  mile distant to NW.

17 $\frac{1}{2}$  Outer embankment joins northern, and is now 40 ft. high. Below it on north side is **Tien-hu-chên** (about 500 houses).

18 $\frac{1}{4}$  Route descends embankment at east end of Tien-hu-chên, and proceeds NW. across a fertile plain covered with villages. Good 10-ft. to 20-ft. road with tracks of farm-carts which in this district are drawn by four bullocks. Wheelbarrows plentiful.

20 $\frac{1}{4}$  **Lung-pei** (100 scattered houses).

21 $\frac{1}{4}$  Cart-road narrows to 4 ft.

22 $\frac{1}{4}$  **Ma-chia-chuang** (30 houses) and **Hsü-chia-chuang** (35 houses).

23 $\frac{1}{4}$  **Chin-chia-wu-chi** (called locally Chin-chia-ok-chi) (33 houses). Farm-cart road 8 to 10 ft. wide.

24 $\frac{1}{4}$  Across fields, surrounded by houses and villages.

25 $\frac{1}{4}$  **Yeh-kuan-chuang** (5 houses). Country partly grass, partly under cultivation.

26 $\frac{1}{4}$  **Yu-nan-chuang** (5 houses). Road crosses a small wooden bridge over a nearly dry small canal leading to

28 $\frac{1}{4}$  **Pai-lu-kou** (called locally Bore-loo-gur), about 500 houses.

Route continues W. across a fertile plain, with patches of grass in places; many small villages; houses of mud, and detached from each other. Fair 6-ft. farm-cart road, varying in width from 4 to 10 ft., liable to become heavy after rain. It is much used by wheelbarrows.

miles

30 $\frac{1}{4}$ **Ts'ai-chia-chuang** (5 houses).31 $\frac{1}{4}$ 

Road crosses the *Yi-fan Ho* at **Wang-tu-k'ou**. It is a canal, 20 yds. wide, flowing N. It is crossed at a dam by a low footbridge of planks over channel 12 ft. wide and 2 ft. deep. It is practicable for small boats only when the river is high.

**Ch'eng-tzu-t'ou** (50 houses).33 $\frac{1}{2}$ 

Road crosses nearly dry channel. **Yang-chia-chuang**, with **Hu-chia-chuang** to SW., form a village of 20 houses.

34 $\frac{1}{4}$ **Shih-chia-ta-chuang** (25 houses).36 $\frac{1}{4}$ 

*Pai-yang-ssü* (small temple) 500 yds. to south of road.

36 $\frac{3}{4}$ 

*Yen Ho* (No. 1) embankment, visible 2 or 3 miles to SW.

37 $\frac{1}{2}$ **Fêng-chia-chuang** (25 houses).40 $\frac{1}{4}$ 

**Sinanchen Ku**, P., 800 to 1,000 houses on r. bank of the *Yen Ho* (No. 1). Some war-junks and a post of soldiers for guarding the salt. The south end of the town is  $\frac{1}{2}$  to  $\frac{3}{4}$  mile E. of the *Yen Ho* (No. 1), and the N. 600–800 yds. distant. *Yen Ho* (No. 1) here 40 yds. wide.

Leaving south end of town, route continues NNW. across fertile plain, dotted with many small villages. Good 12-ft. road, in parts raised to 2–4 ft. above fields, in parts on level. *Ta-yi Shan*, 20 miles to NNW., visible. Much donkey traffic, and a fair number of wheelbarrows.

43 $\frac{1}{4}$ 

**Hsiao-chou-chia-chuang** (40 houses), 600 yds. to W., on r. bank of *Yen Ho* (No. 1). Belt of fields, two to three miles wide, between villages on l. and those to W. Telegraph near road.

43 $\frac{1}{2}$ 

**Ta-chou-chia-chuang** (60 houses), on r. Road, 8–12 ft. wide, turns NW.

44 $\frac{3}{4}$ 

**Wu-chang-ho** (50 houses), on r. bank of *Yen Ho* (No. 1). To north of it the *Wu-chang Ho* flows E.

miles

- from the Yen Ho (No. 1) to the sea. It is dammed by an earth barrier 143 yds. long, 6 ft. high, and 3 or 4 ft. wide. Telegraph crosses to the l. bank of Yen Ho (No. 1). Uneven path 3 to 6 ft. wide along r. bank, sometimes at a distance of 50 yds.
- 45     **Ta-hsin-chuang**, some 300–400 disconnected houses, extending for a couple of miles along both banks of the Yen Ho (No. 1).
- 46 $\frac{3}{4}$      Path 3 to 12 ft. wide. Sides ploughed up in places.
- 48 $\frac{1}{4}$      **Lung-kou** (60 houses), on r. bank of Yen Ho (No. 1). North of it the *Ch'ao Ho* branches off. It has a dam 125 yds. long, 4 ft. high, across it, and is almost dry. On the other side, the *Liang-mi Ho* comes in from the W.
- 49 $\frac{1}{4}$      *Yi-chou Ho*, flowing E. It is 40 yds. wide, extremely shallow, and dammed at entrance. **Hsiang-chia-wan-tzū** (70 houses), 300 yds. beyond. Path again along r. bank of Yen Ho (No. 1), passing **Yi-chou-ho**, 150 scattered houses.
- 50 $\frac{1}{2}$      **Chang-chia-tien**, a village of 120 houses, chiefly on r. bank of *Yen Ho* (No. 1).  
Chenkiatsih, P., is 15 li to E., T'ang-kou 30 li to W., Wang-chia-chi 18 li to NE., and T'ieh-liu-chên 15 li to W.  
Route continues across fertile plain, along uneven towpath, 3–6 ft. wide, on r. bank of Yen Ho (No. 1).
- 52 $\frac{1}{2}$      **Ta-wu-chuang** (100 houses), 300 yds. from r. *Han Ho*, 20 yds. wide, comes in on l. from W.
- 53 $\frac{3}{4}$      **Yang-chia-chi** (40 houses), on both banks.
- 54 $\frac{1}{4}$      **Ta-fêng-chuang** (20 houses), on l.
- 54 $\frac{3}{4}$      Towpath now 8–12 ft. wide, and in parts in better condition.
- 55 $\frac{3}{4}$      *Ha-ma Ho*, 40 yds. wide, comes in on l.
- 56     **Tso-chia-yao** (50 houses), on l.
- 58     Two dams on r. blocking entrances to *Liu-li Ho*, 96 and 77 yds. long respectively. Not much water



miles

in channels, the northern of which goes to Kuang-ho-k'ou on sea, 150 li distant by river.

59 Cross to l. bank of *Yen Ho* (No. 1) at south end of Tayishan.

59½ **Tayishan**, P. T., on l.; 1,400 houses. Many shops and some inns. The route through it crosses several bridges over channels, various mouths of the *Wai Ho*, which flows from the SW. The main channel flows W. and N. of the town into the *Yen Ho* (No. 1) and is crossed by two bridges. There is a small group of hills  $\frac{3}{4}$  mile to NW. of town, called the *Ta-yi Shan*, 300-500 ft. high.

The road from Antung Ku, via T'ang-kou, to Haichow, passes to the west of the town.

Direction of route NNW., leaving the *Yen Ho* (No. 1) on the r.

60¼ Bridge of loose stones over main channel of the *Wai Ho*, which flows NE.

60½ Junction with road from Antung Ku and T'ang-kou, 6-10 ft. wide, and of uneven surface. Route crosses a pass in the *Ta-yi Shan*, 50 ft. high, with *Nai-nai-t'ing* (temple) on 300-ft. summit on r., and pagoda on *Kuan-yin Shan* (200 ft.) on l. Telegraph along road. Some higher summits of about 500 ft., part of *Ta-yi Shan*, are passed on the l.

60¾ Road to Panpu, P. T., with telegraph, goes N.

61½ **Jên-t'ou-chuang** (50 houses). Road still skirts *Ta-yi Shan* on l.

61¾ Route branches off NNW. from road going NW. at foot of *Ta-yi Shan*, across fertile plain. Sandy 6-ft. path. Hills some 20 miles distant to N. and NE.

63¼ Route leads over 6-ft. embankment and crosses the *Hsing-hsing Ho*, by ferry, 50 yds. wide, clear water, 10 ft. deep, flowing NE. **Jên-chia-chuang** (40 houses),  $\frac{3}{4}$  mile to E. Direction NW. across plain, with line of small villages in distance.

miles

- 65½ **Chang-chia-wan** (20 houses), on r., several small villages on l. *Hsiao-yi Shan*, a rock 100 ft. high, 2½ miles to NNE.
- 66½ **Pei-chang-chia-wan** (30 houses).
- 67½ The *Ting-tang Ho*, with a 10-ft. embankment, is crossed by a dam of earth, 27 yds. long by 2 ft. wide on top. River 3 ft. at deepest. **Wei-k'ou-tzū** on north bank. Direction NNW., along embankment of *Ting-tang Ho*, which latter after ½ mile bends to r., whilst embankment, 4-6 ft. high, continues.
- 68½ Road turns inwards to embankment, and continues alongside of it.
- 69½ **Hsin-ho-k'ou-tzū** (10 houses).
- 70 Embankment turns off to r.
- 70½ **T'ang-chia-ch'iao** (15 houses), on l. Road leads across plain, passing a few small villages on l.
- 73½ **Hsin-pa-chên** (370 houses). There are two squads (about 20 men) of soldiers belonging to one of three camps, whose duty it is to guard the salt. Direction N. across plain, along 8-12 ft. uneven path, much used by wheelbarrows. Country under spring wheat, which is the only crop, as the plain is liable to floods from July to the end of September. Small villages dotted about, away from the road.
- 77½ **Yüan-chia-chuang** (10 houses), 100 yds. to l.  
Road from *Tsingkiangpu* joins in on l. (see Route 28 B, mile 10½).
- 81½ **Liu-chia-chuang** (30 houses), on r., at foot of the *Haichow Shan*, a rocky ridge with some stone quarries at western end. Hill nearly 3 miles long, stretching SE., rising abruptly from the plain. NE. peak called *K'ung-wang Shan*. Soil sandy. Stony 6-10 ft. road, in bad condition, passing *Haichow Shan* on the r. The *Ch'iang-wei Ho* (or *Haichow Ho*), 50 yds. wide, said to be 14 or 15 ft. deep, comes in from W., 200 yds. to l., and then bends N.

miles

- It flows from Shuyang, some 50 miles distant.
- 82 $\frac{1}{4}$  **Pa-kou-chuang** (20 houses). A small stream here cuts across road. Direction E., away from Haichow Shan. Plain extends to N. and W.
- 83 *Pai-hu Shan*, a rock 140 ft. high, 200 yds. on r. Road passes through a mud embankment, 12 ft. high, and then through small W. suburb.
- 83 $\frac{1}{4}$  **HAICHOW**, P. T., West Gate (see *Gazetteer*).

(B) ALTERNATIVE LAND AND WATER ROUTE  
(about 81 $\frac{1}{2}$  miles)

Identical with Route A as far as Sinanchen Ku, mile 40 $\frac{3}{4}$ ; from there by water along the Yen Ho (No. 1) (for details see Route 28 A).

## ROUTE 28

### HAICHOW TO TSINGKIANGPU

*Authorities*: Route (A): H. R. Davies, March, 1908, and J. Schulze, 1911.

Routes (B) and (C): A. H. Hilton-Johnson, March, 1908.

Route (D): A. H. Hilton-Johnson, March, 1908, and Ismail Khan, March, 1908.

General direction S. There are several alternative routes.

(A) WATER ROUTE (95 $\frac{1}{2}$  miles)

The route starts from Sinpuchen, the port of Haichow, and lies along the canal called the *Yen Ho* (No. 1)<sup>1</sup> or *Salt Canal* (i. e. the canal by which salt is carried). The Yen Ho is not tidal and has no current. It is cut off from the Haichow Ho (the tidal river by which sea-going junks reach Sinpuchen) by an earthen dam 15 ft. thick. Several rivers cross it from

<sup>1</sup> This creek is called *Yen Ho* (No. 1) to distinguish it from other rivers bearing the same name, especially the *Yen Ho* (No. 2), described in Route 24 B.



FERRYING THE HAICHOW HO: NORTH KIANGSU

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W. to E., but the eastern bank is invariably raised artificially to conserve the water and to prevent an influx of the tide. There is, therefore, no connexion with the channels to the E., the water in which is purely tidal, except when the banks are opened to let off the surplus, when the Yen Ho becomes too full.

The width of the Yen Ho varies from 30 to 60 yds. It is generally navigable at the lowest season (February and March) for boats drawing  $2\frac{1}{2}$  to 3 ft. In summer there is sufficient water for boats of 4 to 5 ft. draught. At the season of the year when the water is lowest, the minimum depth is  $2\frac{1}{2}$  ft. In its northern part, roughly as far as Tayishan, at mile  $23\frac{1}{2}$ , it is liable to be closed by ice in winter for from one to three months, usually about December, January, and February. The more southern reaches are not so liable to freeze, but may occasionally be closed for a few days at a time.

The only bridges existing are in the extreme N. of the route. There are two wooden ones at Sinpuchen, and others are found at nearly every village between here and Panpu, the centre part of which consists of a boat which can be moved to permit of passage through. Ferries are numerous, and are to be found at practically every village.

The boats used on the Yen Ho are of two sorts, Yen-ch'uan or salt-boats, varying in size from 200 to 1,000 piculs (12 to 60 tons); and the Hei-k'ua-tzü or passenger-boats, a sort of house-boat 35 ft. long by 10 ft. wide, with sleeping accommodation for about eight men besides the crew of three. The salt-boats are the more suitable for carrying stores and guns. Boats sail when possible, otherwise they are towed.

The country is open and quite flat, except for occasional hills which rise out of the plain in the more northerly part. The *Haichow Shan* near Haichow, and the *Ta-yi Shan* (mile  $23\frac{1}{2}$ ) are the only ones near the route. S. of the Ta-yi Shan there are no hills.

There is always a path leading along one bank or the other, usually along both, passable for mules or wheelbarrows,

though not much used by them, there being no main road following the Yen Ho. Unbridged side-creeks are rare, so that there is little to impede progress along the banks.

Carts are used for farm purposes, but there are no regular cart-roads in this part of the country. Pack-donkeys and mules are used, and the country is suitable for cavalry, though their movement would sometimes be obstructed by rivers and canals, and grass is scarce in winter.

Fair supplies of flour, wheat, millet, and vegetables are obtainable at Panpu (12½ miles) and Tayishan (23½ miles), and plenty of all sorts at Tsingkiangpu. At Sinpuchen the flour-mill grinds 100,000 lb. of flour every day, and keeps four months' supply of wheat in stock.

Water is obtained from the Yen Ho, except in the vicinity of Sinpuchen, where it is brackish and has to be brought from Panpu or from the *Yün-t'ai Shan*.

miles

0

**Sinpuchen**, P. (Port of **HAICHOW**, P. T.; see *Gazetteer*). From a wooden bridge on stone piers near the dam which closes the *Yen Ho* near the west end of the Sinpuchen the route leads through the village of Sinpuchen, and then turns S. The canal is here 30–40 yds. wide. A wooden bridge, capable of being lifted to allow passage of boats, is passed in the village. The bean-oil mill and flour-mill, two large enclosures with tall chimneys, are passed on the l. in Sinpuchen.

2½

**Hsin-ho-t'ou** (5 houses), on r., and bridge with movable boat in middle.

From here a creek navigable for boats of 1 ft. draught branches off to the NE. corner of Haichow city, 2 miles distant. Boats of 2 ft. draught can ascend in rainy season. There is also a good road from here to the city (see Route 29).

3½

*K'ung-wang Shan*, a hill 150–200 ft. high, on r., a lower spur of *Haichow Shan*, a rocky ridge rising abruptly from the plain.

miles

- 4      **Ch'iu-shan-chuang**, a village of 15 houses on both banks, and bridge with movable boat in centre.  
Branch road to Haichow, 3 miles distant.
- 6 $\frac{1}{4}$       **Pien-p'u** (10 houses), on both banks. Bridge.
- 7 $\frac{1}{4}$       **Pien-yü** (or Pien-wei) (6 houses), on l.
- 9 $\frac{1}{2}$       **San-ch'a-tzü** (15 houses), on both banks.
- 11 $\frac{1}{4}$       **K'o-t'ou-ch'iao** (20 houses), on both banks. Bridge formed of earth bank and one movable boat.
- 12 $\frac{1}{4}$       **PANPU**, P. T., a market town of 1,000 houses. Residence of a Chang-ta-shih, superintendent of salt traffic. Main part of town  $\frac{1}{2}$  mile to l., on a navigable canal.  
It leaves the route here in two branches, which afterwards unite in the town, forming a channel and continuing 6 or 7 miles farther to Nan-ch'êng.  
The canal now increases to 60 yds. in width.
- 15      A creek to the l., said to be navigable only to Chungking, P. T., 20 li (6 $\frac{1}{2}$  miles) distant.
- 15 $\frac{3}{4}$       A creek to the l., said to lead to Shih-tui (60 li), where an embankment or lock stops navigation.  
Village of **Ta-ch'ai-shih** (25 houses), on l.
- 17      Creek to r., navigable to the hill *Hsiao-yi Shan*, used for portorage of stone.
- 18 $\frac{1}{4}$       **Erh-shih-li-tun** (8 houses), on l.; 3 ft. of water.
- 19 $\frac{1}{2}$       **Hsiao-ch'ai-shih** (25 houses), on both banks.  
Creek to l. (cut off from canal by an embankment) said to lead into the *Liu-li Ho* (see mile 25 $\frac{3}{4}$ ). Creek to r., said only to be navigable for very small boats owing to a low stone bridge.
- 21 $\frac{3}{4}$       Navigable creek to r., said to lead into the *Ting-tang Ho*, 12 or 15 li distant, a navigable river running southwards.
- 23 $\frac{1}{2}$       **TAYISHAN**, P. T., market town of 1,400 houses on both banks. Beans and wheat collected here for shipment to Sinpuchen. *Ta-yi Shan* (about 500 ft.) on right.



miles

The road connecting Tayishan with Haichow has been described in Route 27 A, mile 59 $\frac{3}{4}$  onward.

25 $\frac{3}{4}$  **Liu-li-ho** (8 houses).

Tidal navigable creek to the sea on the left. Like all creeks from the canal to the sea it is cut off from the former by a mud-bank.

27 $\frac{1}{4}$  Creek from r., navigable in summer ; said to join that from Lung-kou to Shuyang.

29 $\frac{1}{4}$  **Yang-chia-chi** (40 houses), on both banks, and ferry.

32 $\frac{1}{4}$  **Chang-chia-tien**, market village of 120 houses on both banks, with ferry.

33 $\frac{3}{4}$  Navigable tidal creek, called *Yi-chou Ho* (or *Yi-chai Ho*), to l., joining the *Lung-kou Ho* lower down.

34 $\frac{3}{4}$  **Lung-kou** (60 houses), on both banks.

Tidal navigable creek to l., cut off from the canal by a bank, joining the *Wu-chang Ho* at T'ou-tu-k'ou, 30 li distant.

Creek to r. 100 yds. wide at mouth, navigable for boats of 2 ft. draught to T'ang-kou (30 li) always ; to Shuyang (120 li) in summer ; and to Sutsien (240 li) if water is very high.

36 $\frac{3}{4}$  **Ta-hsin-chuang**, scattered village along both banks.

37 $\frac{3}{4}$  **Wu-chang-ho** (20 houses), on l.

Tidal creek navigable at high tide for boats of 3 ft. draught to l., through Siangshuikow, P. (45 li), Hai-an-chên, (95 li), and Yin-wei-kang (120 li), to the sea (130 li).

Creek to r., navigable for boats of 2 $\frac{1}{2}$  ft. draught to Kao-chia-kou (40 li) and Wang-chia-ma-t'ou (70 li) in winter. In summer boats of this draught can go to Liu-lao-chien (190 li), where the creek reaches the Grand Canal, but is cut off from it by a mud embankment (see Route 19, sect. 2, mile 51 $\frac{1}{2}$ ).

40 $\frac{3}{4}$  **Sinanchen Ku**, P., market town of 800 to 1,000 houses,  $\frac{1}{4}$  mile distant on l. Some houses also on bank of canal.

miles

A road to the S. leads to Fowning: see Route 27 A, mile 40 $\frac{3}{4}$ .

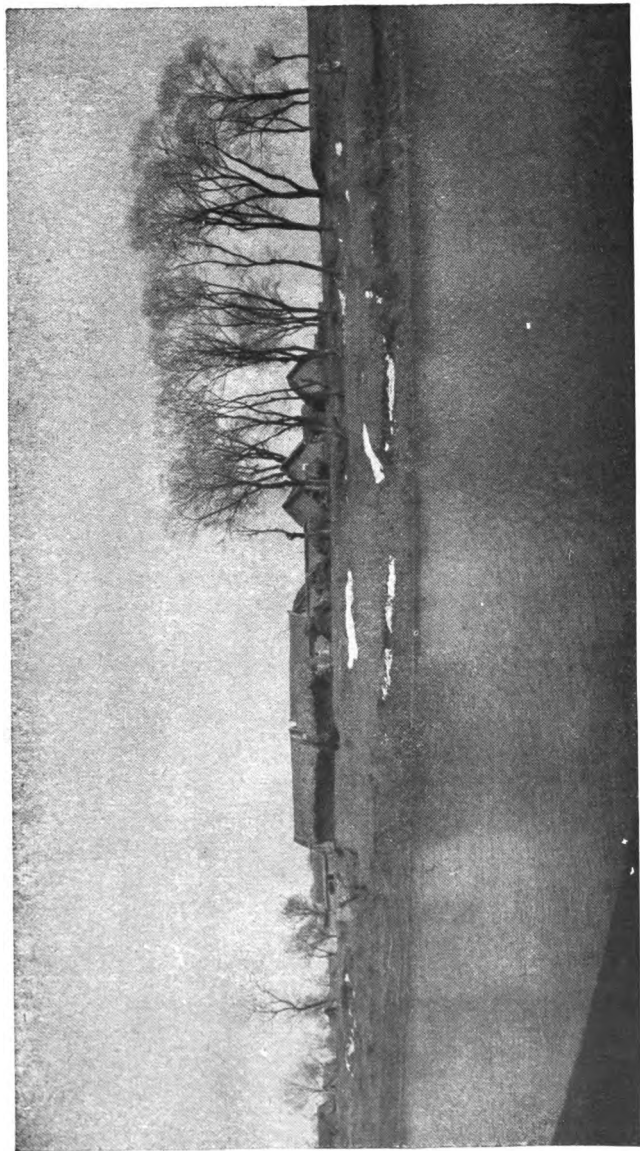
- 43 $\frac{3}{4}$  **Yüan-cha** (15 houses), on both banks, with ferry.  
 45 **Ying-wei-tzū** (25 houses), on l.  
 46 $\frac{1}{2}$  **Hsiao-chin** (12 houses), on both banks, with ferry.  
 47 $\frac{3}{4}$  **Sun-chia-wan** (15 houses), on l.  
 50 **P'ing-an-ho** (8 houses), on r., with ferry.  
 55 $\frac{1}{2}$  **P'an-chuang** (12 houses), on both banks, with ferry.  
 57 **Hsing-kung** (18 houses), on both banks, with ferry.  
 58 $\frac{1}{2}$  **Fêng-chia-ma-t'ou** (10 houses), on both banks, with ferry.  
 60 $\frac{1}{2}$  **Ssü-chia-ma-t'ou**, village of 60 houses and two or three small shops, on both banks, and ferry; 3 $\frac{1}{2}$  ft. of water.  
 63 **Yi-ma-t'ou** (16 houses), on l.  
 64 $\frac{1}{2}$  **Hsüeh-chia-hang** (20 houses), on both banks, with ferry; 3 ft. of water.  
 65 $\frac{1}{2}$  **Kao-t'ai-tzū** (15 houses), on r.; 2 $\frac{1}{2}$  ft. of water.  
 66 $\frac{1}{2}$  **Yen-chia-ma-t'ou**, village of 35 houses, on both banks, and some small shops for selling food to boatmen. The canal here is closed by an earth embankment 30 ft. wide at the top, used to regulate the depth of water between it and Tsingkiangpu. It is built every year about October, and kept standing till about May, when, the part of the canal south of it being as a rule full, it is opened to let water out. Boats cannot at any time pass this embankment without being dragged over by ropes; so that cargo and passengers are usually transhipped. Depth of water, 3 ft.  
 67 $\frac{3}{4}$  **Ts'ai-shih** (10 houses), on both banks, with ferry.  
 69 **Chou-chia-wan** (24 houses), on r.  
 70 $\frac{1}{4}$  **T'ao-chia-ma-t'ou** (15 houses), on r.  
 72 **Chang-chia-ma-t'ou** (15 houses), on l.  
**Antung Ku**, P., lies 2 miles away on l., the city pagoda being visible. From here onward the canal is somewhat shallower.

miles

- 73 **Ta-kuan** (12 houses), on both banks.
- 73 $\frac{3}{4}$  Creek from l., 8 yds. wide, crossed by footbridge  
 $\frac{1}{4}$  mile from its mouth.
- 74 **Wang-chuang** (24 houses), on r. A road leaves E.  
 to Antung Ku.
- 75 **Shui-chia-tu** (6 houses), on l., with ferry.
- 76 $\frac{1}{2}$  **Chang-chia-tu** (15 houses), on r., with ferry.
- 78 $\frac{1}{2}$  **Wang-chia-tu** (40 houses), on both banks, with  
 ferry.  
 Creek runs in from r., 10 yds. wide, not bridged  
 near mouth. Not used by boats.
- 80 $\frac{3}{4}$  **Li-chia-tu** (20 houses), on both banks, with ferry.
- 82 **Hsüeh-chia-tu** (15 houses), on both banks, with  
 ferry.
- 83 **Kuo-chia-tu** (18 houses), on both banks, with ferry.
- 84 $\frac{1}{2}$  **Chang-kê-chuang** (25 houses), on r.
- 86 **Chang-chuang** (25 houses), on both banks.
- 87 **Hsia-pa** (15 houses), on l.
- 90 $\frac{1}{2}$  **Liu-tu-k'ou** (15 houses), on both banks, with ferry.
- 92 $\frac{3}{4}$  **Wangying**, P., walled village of 400 houses,  $\frac{1}{4}$  mile  
 distant on l., partly extending to the canal. This is  
 the port for Tsingkiangpu where passenger-boats stop.

The salt-boats usually go on another mile to **Sipa**,  
 P. RS. (100 houses). The *Yen Ho* joins the *Grand Canal*  
 at Shuang-chin-cha some 9 miles W. of Tsing-  
 kiangpu, but a dam prevents boats from passing  
 from one to the other—see Route 19, sect. 2, mile 16.  
 A railway and a good modern road connect Sipu with  
 Tsingkiangpu. Goods are conveyed to the junks on  
 the Grand Canal by three-wheeled carts drawn by  
 oxen.

From Wangying there is a road, much used by  
 wheelbarrows and passable for carts, to Tsingkiangpu.  
 It passes through Wangying, and just beyond, crosses  
 the former bed of the *Yellow River*  $\frac{1}{2}$  mile wide, with  
 a stream running down it at the near side (200 yds.



THE YEN HO (NO. 1), BETWEEN TSINGKIANGPU AND HAICHOW

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miles

wide, 12 ft. deep), crossed by a footbridge. The high embankments of the Yellow River are still standing.

95½

**TSINGKIANGPU**, P. T. RS. (see *Gazetteer*). Road approaches the town through a plain, leaves the barracks of 3,000 of the *Lu Chün* on the r., enters at the North Gate in the mud wall, and ends at the stone lock bridge over the *Grand Canal* outside the East Gate and just above the launch wharf.

(B) LAND ROUTE VIA T'ANG-KOU (79½ miles)

This is the main and most direct route between the two places. In its normal state and under all ordinary conditions of weather the route is passable for all arms and all forms of transport. It is always at its best in winter. Occasionally it is rendered entirely impassable (especially in the first and second stages) by heavy rain in summer. The road described in this report is that by which infantry would march. In a few cases it would be necessary for wheeled vehicles to make slight detours and follow the regular cart-track. The roadway throughout is an unfenced cart-track with an average width of about 15 ft. It is, generally speaking, straight and level, and has no appreciable gradient anywhere. For about the last 35 miles it is a made road, drained at the sides, and with a high camber. Except for the first two miles beyond Haichow, where it is very rough and strewn with loose stones, its surface throughout is of hard, beaten mud, free from stones and in good condition, practicable for all arms and transport in dry weather. Infantry could usually march in fours, and almost the whole length of the road is practicable for bicycles. In wet weather, however, the surface becomes bad, and locomotion almost impossible.

The country is flat or slightly undulating, well cultivated, and very open up to mile 40, after which it is fairly well wooded. There are but few waterways, which in winter seldom offer any obstacle, but in summer are 15 ft. or more

deep, and can only be crossed at ferries on the main routes of travel. Cart-roads and footpaths intersect the country in all directions, which in dry weather is passable practically anywhere by any arm. Market towns and villages are few. The houses are built either of mud-plastered reed wattle or brickwork, or of solid mud, and have almost invariably thatched roofs. Within 2 miles of Haichow, however, the houses are similar to those of eastern Shantung, and are substantially built of rubble stone quarried from the Haichow Shan hills. All along the route the houses would afford sufficiently good temporary accommodation for European troops.

Nearly all market towns and some villages are walled, i. e. surrounded by a mud-bank from 10 to 20 ft. high.

There are no defiles but, owing to the bare and open character of the country, any of the walled market towns *en route* would form a strong defensive position and present a serious obstacle if held by an enemy.

All streams are crossed by fording in the winter and by ferry in the summer.

In dry weather suitable camping-grounds for a force of any size are to be found by the road anywhere.

Supplies of food and forage would be obtainable in fair quantities in market towns, especially in Tsienkiatsi and Wu-chi; also to a much larger extent in Shuyang and Haichow. Water is plentiful from the streams and wells, but is hard, bitter, and of poor quality.

Transport consists chiefly of wheelbarrows, and fair numbers are always available along the route. Carts are obtainable in Tsingkiangpu, but N. of that place none can be counted upon, as no agencies exist either in Shuyang or in any of the market towns; nor are they privately used by the people. There is no form of pack transport, though donkeys are used to some extent for riding and for carrying grain sacks and other soft articles on the bare back, without pack saddlery or other harness of any description.

This road should not be attempted without guides.

miles

- 0      **Sinpuchen**, P. (port of **Haichow**). Raised road 12 ft. to 18 ft. wide, through level cultivated plain.
- 3½      **HAICHOW**, P. T. *North Gate*. General direction SW. through the city.
- 4¾      *West Gate*, through which road leaves the city. General direction SSW. Road rough and strewn with loose stones passes along the western slope of an extensive hill rising abruptly from the plain and known as the *Haichow Shan* (called K'ung-wang Shan on Engl. map of Shantung—in reality the name of NE. peak of Haichow Shan—other names for it are Ching-p'ing Shan and Ch'ü-yang Shan).
- 6¾      **Liu-chia-chuang**, village (70 houses) at foot of the hill.  
Road again improves.
- 10½      **Yüan-chia-chuang** (10 houses). Road to Fowning branches off on l. (see Route 27 A, mile 77¾).
- 12      **Ch'ü-chuang** (20 houses).
- 14      **Mo-chuang**, village (30 houses).
- 15½      **Mo-chia-k'ou-tzü** (20 houses).
- 16¾      **Shên-chia-kang** (40 houses).
- 17¾      **Lung-chü**, walled market town of 150 houses. Road enters N. end of town.
- 23      **Ch'i-hsing-chuang** (40 houses).
- 23¾      **Ts'ao-chuang** (50 houses).
- 24½      **Chang-chuang**, village (80 houses).
- 26      **Tung-wei** (30 houses).
- 27½      **Kêng-chuang** (70 houses).
- 29      **Liu-shu-chuang** (40 houses).
- 29½      **Yung-chuang** (30 houses).
- 32½      **Wu-chi**, walled market town of 500 houses. Route enters N. end. General direction SSW. The route goes through very open country and passes the following small villages: **Hsiao-fan-chuang**, **Chou-chia-chuang** (50 houses), and **Liu-chia-chuang** (for alternative route see below, Route 28 C).



miles

- 37 **Ch'ü-chia-miao**, small walled village. Just S. of it the stream known as the *Ch'ai-mi Ho* (or Shang Ho) is crossed by a ferry-boat or ford, the winter depth being not less than 3 ft.
- 38 $\frac{1}{4}$  **Chang-chia-wei**, village (50 houses).
- 38 $\frac{1}{2}$  Route crosses a small stream called the *Yang Ho* on a winter causeway.
- 40 $\frac{1}{4}$  **Huang-chia-yüan**, scattered village..
- 41 **Ma-ch'ang**, a walled market town (300 houses), entered at N. end. The road practically follows the bank of a small river known as the *Ma-ch'ang Ho*, 30 yds. wide, and too shallow for winter navigation, via
- 42 $\frac{1}{4}$  **Shên-chia-wan**, scattered village.
- 42 $\frac{3}{4}$  **Wu-li-ch'iao**, village. Mud causeway across river.
- 44 **Fan-chia-wan**, village.
- 46 $\frac{1}{4}$  **Yi-chia-wan**, village.
- 47 **Ch'ên-chia-kuo**, village.
- 47 $\frac{3}{4}$  **Wang-chia-chuang**, village.
- 48 $\frac{1}{4}$  **T'ang-kou**, walled market town (200 houses).
- 50 $\frac{1}{2}$  **Mu-chia-chuang**, small village.
- 51 $\frac{1}{4}$  **Chao-chia-chuang**, small village.
- 52 $\frac{1}{2}$  **T'ao-yüan-chuang**, small village.
- 53 **Ta-hsing-chuang**, small village.
- 55 **TSIENKIATSI** (Ch'ien-chia-chi), P., walled market town (1,000 houses). Route enters at E. end.  
Alternative Route C joins main route here.  
A small stream known as the *Ch'ien-lu-t'ang Ho* is crossed immediately south of the town.
- 56 **Ho-k'ou-chuang** (50 houses).
- 58 $\frac{1}{2}$  **Yang-chia-chuang** (20 houses).
- 59 $\frac{1}{2}$  **Hsü-chia-liu**, walled market town (200 houses).  
The same stream is crossed again, in winter by a temporary causeway, and in summer by a ferry.
- 62 **Chin-ts'un** (30 houses).
- 64 $\frac{1}{2}$  **Chien-ch'iao-chên**, walled market town (100 houses).

miles	
67	<b>Wu-li-chuang</b> , walled market town (300 houses). Route enters N. end. Beyond the town road lies through open country, very low and wet in parts, passing several small villages.
70 $\frac{3}{4}$	<b>Ting-chia-chi</b> town (200 houses).
77	Route reaches l. bank of the <i>Yen Ho</i> (No. 1). The latter, here 30 yds. wide and 8 ft. deep in winter, is crossed by ferry-boat.
77 $\frac{1}{2}$	<b>Wangying</b> , P., walled market town (400 houses). Road crosses the old bed of the <i>Yellow River</i> . For details see Route 28 A, mile 92 $\frac{3}{4}$ .
79 $\frac{1}{2}$	<b>TSINGKIANGPU</b> , P. T. RS. (see <i>Gazetteer</i> ). Road enters at the North Gate in the mud wall, and ends at the stone lock bridge over the <i>Grand Canal</i> outside the East Gate.

## (C) LAND ROUTE VIA SHUYANG (91 miles)

Alternative route for the section between **Wu-chi** and **Tsienkiatsi**. The road is 11 $\frac{1}{2}$  miles longer and the surface not so good. Between Wu-chi and Shuyang it becomes more of a field track. From mile 49 to mile 53 it is raised on a bank 10 to 20 ft. high. The only bridge of importance is that immediately N. of Shih-tzū-ch'iao at mile 53.

miles	
0	<b>Sinpuchen</b> , P. (port of <b>Haichow</b> ). For details up to mile 32 $\frac{1}{2}$ see Route 28 B.
32 $\frac{1}{2}$	<b>Wu-chi</b> . General direction WSW.
34	<b>Chou-chia-tao-k'ou</b> , hamlet of a few houses. Here the road crosses the <i>Ch'iang-wei Ho</i> (or <i>Haichow Ho</i> ), which flows N. to Haichow (see Route D, mile 40).
35 $\frac{1}{2}$	<b>Hung-kou</b> (70 houses).
37	<b>Shih-ho-chuang</b> , village of 30 houses.

miles

38 **Ma-t'êng**, walled market town of 200 houses,  $\frac{1}{2}$  mile distant on l.

42 $\frac{1}{2}$  **Kuan-t'ien-chi**, walled market town of 500 houses.

45 $\frac{1}{2}$  **Jên-chuang** (50 houses).

48 $\frac{1}{2}$  **Shuyang**, P. T., an unimportant district city (3,000 houses) with a suburb extending for a mile outside the East Gate, through the eastern end of which the road passes.

Beyond the city road lies on a raised bank closely following the *Shang Ho* (also called Ch'ai-mi Ho) and keeping it on the r.

For navigation on this river see Route 28 D.

49 **Liu-shu-t'ou** (60 houses).

51 $\frac{1}{2}$  **Shih-li-kou** (50 houses).

53 $\frac{1}{4}$  **Shih-tzŭ-ch'iao**, a market town of 100 houses. Before reaching it, the river, 50 yds. wide, is crossed by a high wooden-pile bridge with a 9-ft. roadway. General direction SSE.

53 $\frac{3}{4}$  Route crosses the *Hsin Ho*, a stream some 20 yds. wide and 1 ft. deep in winter, by a mud causeway. In summer this river is 60 yds. wide and 15 ft. deep, and is then crossed by ferry. **Ch'ien-chuang**, a hamlet on the r.

54 $\frac{3}{4}$  Route crosses tributary of Hsin Ho by a bridge.

55 $\frac{1}{2}$  **Kuan-yin-kê** (40 houses).

57 $\frac{1}{4}$  **Hua-ying-fang** (40 houses).

60 $\frac{1}{2}$  **Hu-chia-chi**, walled market town of 200 houses (?).

61 $\frac{1}{2}$  **Liang-chuang** (30 houses).

63 $\frac{1}{2}$  **Ho-hsi-chuang**, village of 50 houses on l.

64 $\frac{3}{4}$  **Tsou-chia-wei-tzŭ**, walled market town of 100 houses on r.

66 $\frac{1}{2}$  **TSIENKIATSI**, P.

Alternative route rejoins main route (see Route 28 B, mile 55).

91 **TSINGKIANGPU**, P. T. RS.

(D) WATER AND LAND ROUTE VIA SHIH-TZŪ-CH'IAO  
(97 miles)

As far as Shih-tzū-ch'iao this is the main and most direct water route between **Sinpuchen** and **Shuyang**, and lies via Kao-hsü by the *Ch'iang-wei Ho* (or Haichow Ho) to T'ang-chien, and thence by the *Ch'ai-mi Ho* (also called Shang Ho). The main road from Sinpuchen to Shuyang (see Route 28 C) lies within 5 miles of the river all the way, crossing it by a mud causeway or ford in winter, and by ferry in summer at a point a few miles SW. of Wu-chi at the hamlet Chou-chia-tao-k'ou, 40 miles above Sinpuchen.

Beyond Shih-tzū-ch'iao land route alone available (see Route 28 C).

River is tidal for some distance above Haichow, and has a sluggish current flowing N. At Sinpuchen the width of the river is 200 yds., but above this it narrows rapidly, and the permanent width between banks averages about 50 yds.

Present width of waterway is 25 yds. at Haichow, narrowing gradually to 10 yds. at Shan-chia-tang, 22 $\frac{3}{4}$  miles from Sinpuchen. S. of this it is dry in places as far as T'ang-chien, 44 $\frac{1}{2}$  miles distant from Sinpuchen. W. of T'ang-chien it averages about 25 yds. in width.

Present depth ranges from 10 ft. at Sinpuchen and 4 ft. at Haichow to under 1 ft. at Shan-chia-tang; thence to T'ang-chien it is seldom more than a few inches, and W. of it usually under 3 ft. In summer these depths may be increased by 10 ft. or more.

The high wooden-pile bridge at Shih-tzū-ch'iao, giving 16 ft. of waterway and 9 ft. roadway, is the only one met with.

The river is not navigated by launches. Native boats up to 6 ft. draught can reach Shuyang in summer, but in winter Shan-chia-tang, 22 $\frac{3}{4}$  miles from Sinpuchen, is the limit to which even small boats can ascend. In winter also, boats of under 2 ft. draught can ply between T'ang-chien and Shuyang, and small craft are said to be able to reach Sinpuchen from

T'ang-chien by going eastwards via the *Ch'ai-mi Ho* for some 24 miles, and then N. by the *Yen Ho* (No. 1) or Salt Canal.

The country is very flat, mostly under wheat cultivation, sparsely wooded, dry in winter, and then easily passable by all arms, but often swampy in summer.

To T'ang-chien the banks are mostly on a level with the surrounding country, beyond that they are raised 3–15 ft.

There are good camping-grounds in dry weather for a large force anywhere.

There is a good wheelbarrow path (not practicable for carts) on or close to the E. bank throughout.

Towing is always possible.

Small supplies only of food, forage, and fuel would be obtainable elsewhere than at Sinpuchen, Haichow, and Shuyang.

The river water is hard, bitter, and of poor drinking quality.

miles

- |     |   |
|-----|---|
| 0   | <b>Sinpuchen</b> , P. (port of <b>Haichow</b> ). River follows a very winding course.   |
| 3   | <b>Fu-an-t'an</b> , village (100 houses), on r.   |
| 6   | <b>HAICHOW</b> , P. T. (see <i>Gazetteer</i> ). Route passes the NW. corner of city, and thence SSW.  |
| 8   | <b>Sha-pan-ch'iao</b> (30 houses), on r.  |
| 11  | <b>Hsüeh-chia-fang</b> (40 houses), on l.   |
| 13½ | <b>Chang-chuang</b> , village (120 houses).   |
| 15  | <b>T'ang-chuang</b> (40 houses).  |
| 16  | <b>Ta-fu-t'ing</b> , village (60 houses), on l.   |
| 17½ | <b>Ch'ing-shui-wang</b> (30 houses), on r.  |
| 20¼ | <b>Shang-fang</b> , market town on l. (100 houses).   |
| 21¼ | <b>Hsü-chuang</b> (40 houses), on l.  |
| 22¾ | <b>Shan-chia-tang</b> , village on both banks (130 houses).<br>The limit of winter navigation for all craft. Above this the river is often dry in winter. |
| 24¼ | <b>Ma-shêng-kou</b> (80 houses).  |
| 26¼ | <b>Kao-hsü</b> , a walled market town on both banks (80 houses).  |

miles

- 27 $\frac{3}{4}$      **Shui-liu-chuang** (30 houses), on r.  
 28 $\frac{3}{4}$      **Lu-k'ou** (40 houses), on l.  
 30 $\frac{1}{2}$      **Fan-chia-wan**, village on both banks (60 houses).  
 35     **Ho-chuang** (60 houses), on l.  
 36 $\frac{1}{2}$      **San-ch'a**, village on l. (40 houses).  
        From here a stream flows W. to Shuyang. It is said to be rather longer than the present route, and is not navigable in winter.  
 40     **Chou-chia-tao-k'ou**, hamlet of a few houses on l.  
        Here the main road from Haichow to Shuyang crosses the river (see Route 28 C, mile 34).  
 42 $\frac{3}{4}$      **Ou-ch'ih-chuang**, village on both banks (40 houses)  
 44 $\frac{1}{2}$      **T'ang-chien**, market town, mostly on r. (120 houses).  
        From here the *Ch'ai-mi Ho* (or Shang Ho) goes E. It is said to be navigable in winter for small boats to the *Yen Ho* (No. 1), and so to Sinpuchen. The *Ma-ch'ang Ho* runs SE. to Ma-ch'ang and is not navigable in winter (see Route 28 B, mile 41).  
 49     **Chung-chia-wei**, village on r. (70 houses).  
 52     **Chang-chia-chi**, market town, mostly on l. (150 houses).  
 56 $\frac{1}{2}$      **Shên-chuang**, village on r. (30 houses).  
 59 $\frac{1}{4}$      **Shih-tzü-ch'iao**, walled market town on l. (100 houses).  
        Here river passes under high wooden-pile bridge, and turning sharp north reaches **SHUYANG**, P. T., 4 $\frac{3}{4}$  miles away.  
        At the bridge the road to Tsingkiangpu is rejoined (for details see Route 28 C, mile 53 $\frac{1}{4}$ ).  
 97     **TSINGKIANGPU**, P. T. RS.

## ROUTE 29

## HAICHOW TO NAN-CH'ÊNG (OR FÊNG-HUANG-CH'ÊNG) (6½ miles)

*Authority* : G. E. Pereira, March, 1908.

General direction E. First 3 miles along the road from Haichow, to the main branch of the *Yen Ho* (No. 1), thence to the foot of important hills.

miles

0

**HAICHOW**, P. T. (see *Gazetteer*). Leaving by the East Gate the route lies E. along slightly rising ground at the foot of *Haichow Shan* on r., with plain stretching away to l. (N.). The Haichow Shan, a high rocky ridge, is also called the Ching-p'ing Shan and Ch'ü-yang Shan. A small canal from the Yen Ho (No. 1) comes up to the NE. corner of Haichow, where it bifurcates. The longer branch (too shallow for boats) runs for about 1,500 yds. along the N. wall up to the North Gate; whilst the other, which is deeper, runs for 400 yds. close to the E. wall, towards the East Gate, where boats discharge. The road, on leaving the East Gate, makes a slight semi-circular bend to the S. to avoid this branch. It is paved for the first ½ mile till some tombs are passed, and then continues unpaved to Nan-ch'êng. It is much used by wheelbarrows, and with very little difficulty could be made into a good cart-road. At present it is for the most part uneven, stony, broken in parts, and sometimes sandy.

1¼

**Hsin-ho-t'ou**, village of 5 houses, 2½ mile 2¾).

1¾

**K'ung-wang Shan** (2½ miles). At the extremity of the H. it the road bends to the village of

miles

- 3 The main branch of *Yen Ho* (No. 1) is crossed by a bridge, consisting of a boat with planks, removable when necessary. The route lies E. across a great plain, and passes through **Yen-ch'ih**, a village of 70 scattered huts, with salt-pans. Plain mostly covered by a tall weed, known as 'huang-hao', largely used for fuel, and a little wheat. Small canal on r.
- 5 Canal on r. joins another running N. and S., 25 ft. wide, crossed by bridge of three planks.
- 6 Route crosses minor branch of *Yen Ho*, 25-30 ft. wide, and 2 ft. deep. This branch separates from the main channel at Panpu (see Route 28 A, mile 12½).
- 6½ Bridge of three removable planks.
- Nan-ch'êng** or **Fêng-huang-ch'êng**, South Gate. Town is surrounded by a stone wall, 15-20 ft. high, much broken in places, passing over hills, 200-300 ft. high, on E. and W. side, and enclosing an area of about 1½ miles from E. to W., and 1 mile from N. to S. These hills are at the southern extremity of the group, near the sea on the N., of which the *Yün-t'ai Shan* (to the E. of Sinpuchen) is the highest peak. The range stretches for some distance to the NE. of the town. The only inhabited part of the latter is that occupying the southern central part of the enclosure, consisting of stone houses in narrow, crowded streets. The population is probably about 5,000. The rest of the interior space is hilly and rocky, or under cultivation. There are temples on the tops of both the eastern and western hills.



## ROUTE 30

## HAICHOW TO KIAOCHOW (SHANTUNG)

*Authorities:* H. R. Davies and G. E. Pereira, March, 1908 (Route A); German Map of Chihli and Shantung, 1907; J. Schulze, Nov. 1909 (Route B).

There are two land routes.

## (A) VIA JIHCHAOHSIEN (143 miles)

General direction NNE. This is the main direct road between these places, but for the last 30 miles there is said to be an alternative route farther to the E., passing through Wangtai. (For alternative route beyond Kanyü see Route 30 B, below.)

The road (usually 12 to 16 ft. wide) is regularly used by wheelbarrows and pack-animals (donkeys) throughout its length. Between Tsingkow and Chiu-li-ch'i it is practicable for carts, and is used by them to some extent.

The road is practically level, but beyond Jihchaohsien becomes slightly undulating, the biggest rise being a gradual one of about 150 ft. beyond mile 106. It is not as a rule sunken, but after rain would probably become heavy, though never so bad as to be impassable for wheelbarrows. The surrounding country is flat in the first stages (as far as mile 20) and liable to floods. The sea, at places only 3 to 4 miles distant, is never visible. Subsequently hills (the highest 2,000 ft.) are always in sight on one or both sides, and sometimes close to the road. Where the country is flat it is under wheat in winter, except for some uncultivated salt land near Haichow. Crop of reeds, used for fuel and salt-pans. The hills are uncultivated and as a rule bare, though fir-trees grow in places. The country beyond mile 20 is intersected by deep watercourses. These are usually crossed by wooden trestle bridges (there are 3 such bridges between Haichow and Tung-kuan-chuang, and not less than 6 between the

latter and Tsingkow). The road is, on the whole, suitable for cavalry, but not practicable for wheeled artillery. Villages are fairly numerous, and market towns occur at intervals. Houses in the plain are of mud, except in towns where they are of bricks. The rivers in winter have for the most part only a few inches of water flowing in a narrow channel down a wide sandy bed. Camping-ground can be found anywhere.

Flour, vegetables, and millet are available in fair quantities in market towns. Flour in large quantities in the Haifoong Flour-mill at Sinpuchen. Grass very scarce in March. Animals are fed chiefly on millet, chopped millet stalks, and bran.

Water at Sinpuchen is undrinkable owing to salt, and has to be brought chiefly from Panpu, 12 miles off (see Route 28 A, mile 12 $\frac{1}{4}$ ), and from the hills to the S. Water is obtained at Tsingkow from the river and from wells. Wells are the chief source of supply along the route, but the water from them is not always good. Rivers with water in them in March are mentioned where they occur.

Transport on this road is chiefly by wheelbarrows, some of which are drawn by donkeys. Large quantities of wheelbarrows are easily obtainable at Sinpuchen, Tsingkow, and Kiao-chow, but in other places they would take time to collect.

The telegraph follows the road on l. as far as Tsingkow.

miles

- |                 |  |
|-----------------|--|
| 0               | <b>Sinpuchen</b> , P. (port of <b>HAICHOW</b> , P. T.—see <i>Gazetteer</i> ). General direction N. Good wheelbarrow road over flat country, partly salt plains and partly under cultivation. From the Bean-oil Mill, at Sinpuchen, the <i>Yen Ho</i> (No. 1) is crossed by a wooden bridge, passable for wheelbarrows. Route lies across flat plain to |
| 1               | <b>Lin-hung-t'an</b> (35 houses), on r. bank of <i>Haichow Ho</i> (or Ch'iang-wei Ho, locally Ch'ao Ho), and   |
| 1 $\frac{1}{4}$ | down its bank to <i>ferry</i> , $\frac{3}{4}$ mile farther. on, where the crossing is made by a boat, taking 10 barrows  |

miles

and 20 men, or 40 to 50 men. The river is 40 to 70 yds. wide, muddy and tidal.

3 $\frac{3}{4}$  Route joins road and telegraph line from **Haichow** (4 miles S.). The Haichow road crosses the Haichow Ho by a large ferry-boat (when there is enough water), and passes through **Fu-an-t'an** (100 houses). From Haichow to the ferry the road is good and about 16 ft wide. N. of ferry road is 6 ft. wide, but it soon increases to 12 ft., partly raised and partly on level; no culverts.

Near junction of roads canal, 10 ft. wide, with 6 ft. embankment, crossed by plank bridge. Some salt-pans. Waste land on r., an occasional patch of cultivation on l.

6 $\frac{3}{4}$  Route crosses a tidal stream by a wooden trestle bridge, 35 yds. long. **Sha-t'ou** (400 houses), 1 mile to r. on l. bank of stream.

7 $\frac{1}{2}$  **Tung-kuan-t'uan** (25 houses).

8 $\frac{1}{2}$  **Tung-kuan-chuang** (30 to 40 houses). Fair 16-ft. road, but liable to be cut up by wheelbarrows.

10 $\frac{1}{2}$  **Liu-chia-k'ou**, village (about 30 houses). Bridge of planks, 64 yds. long, on 10 trestles, over the *Man-tzü-wan*, a tidal river.

12 Plank bridge, 82 yds. long, on 17 trestles, over nearly dry bed. Villages more numerous.

13 Plank bridge, 63 yds. long, over stream, nearly dry at low water. 50 ft. hill 2 miles to W.

13 $\frac{3}{4}$  Plank bridge, 35 yds. long, over small stream.

14 **Fan-chia-tien** (about 50 houses). Farm-carts fairly numerous. Good 12 ft. road.

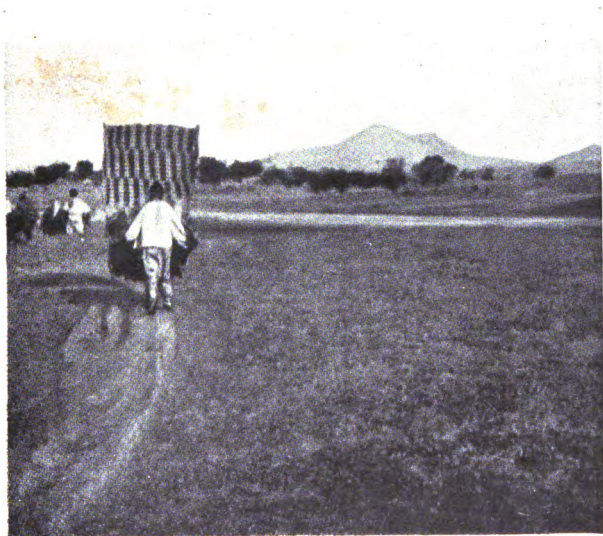
15 $\frac{1}{4}$  Plank bridge, 23 yds. long, over small stream. Road again furrowed by wheelbarrows.

16 Plank bridge, 55 yds. long, over tidal river; 1 ft. of depth at low water.

17 **Ching-chia-yüan** (about 20 houses). Wooden trestle bridge, 46 yds. long, over the *Hsia Ho*.



NORTH KIANGSU: CREEK AT HSIA-K'OU



NORTH KIANGSU: SAIL-BARROW

files  
19

191  
2

211  
2

231  
2

241  
2

263  
4

271

29

32

3

3

3

miles

- 19      **TSINGKOW**, P. T. (see *Gazetteer*). Town (10,000 to 15,000 inhabitants) entered by the *South Gate*.  
 Its harbour, **Hsia-k'ou**, distance 10 li by land, 20 li by river (nearly dry to S. of town), is accessible only to small junks; sea-going boats have to anchor outside a sand-bank.
- 19½     Route leaves the town by *North Gate*. General direction NNE.  
 Here alternative route (30 B) branches off to l.
- 21½     **Chu-hsü** (30 houses).
- 23½     **Ta-p'an-tzū** (25 houses).
- 24½     **Ta-hsing-chuang**, market village (70 houses). Tidal stream, 25 yds. broad, 1 ft. deep at low water, crossed by wooden trestle bridge, passable only for barrows. Carts would be obliged to ford, and could not cross in the rainy season.
- 26¾     **Li-chia-hang** (30 houses). Stream nearly dry at low water. Crossed by trestle bridge for barrows.
- 27½     **Hai-t'ou**, market village of 130 houses. Beyond it the *Yen-ching Ho* (10 yds. broad, 1 ft. deep) is crossed. Barrows ford it, and foot-passengers cross by a tub-ferry, holding 6 men. At the mouth of this stream is **Chü-mên-k'ou**, to which sea-junks come.
- 29       **Chu-kao** (35 houses).
- 32¼     **Ta-sha** (30 houses), beyond which a small tidal creek is crossed, which for 200 yds. would be heavy mud after rain.
- 33½     **Chiu-li-ch'i** (50 houses and some inns). General direction NNE. Level road, good for wheelbarrows.
- 37¾     **Chê-wang**, market village of 70 houses and some inns.
- 39½     Road to the r. front to **Antungwei**, P., a walled town of 600 houses, 4½ miles distant, in the province of Shantung.
- 42½     **Fên-shui**, the first village in Shantung province.

miles

(According to German map this village is still in Kiangsu.)

- 47 **Hu-shan-p'u**, a village of 30 houses.  
A road from Antungwei joins on r.  
General direction NNE. Good level barrow road.  
Hills visible on l.
- 49½ **Mi-t'ien-kou** (Li-tien-kou on German map), village of 25 houses.
- 52½ **Kao-wang-chuang** (35 houses).
- 53½ Route crosses the *Chu-tzu Ho* (10 yds. broad and 6 in. deep), in a sandy bed 60 yds. wide, by a wooden bridge. Large plantations of bamboo, fir, and other trees along this river, and water appears good.
- 54½ Stream (25 yds. broad and 2 ft. deep), crossed by a wooden bridge at **Nan-tien** (25 houses).
- 55 South Gate of **Taolochen** (T'ao-lo-k'ou), P., a market town of 600 houses, surrounded by a wall of stone and brick, 20 ft. high. Water from wells. Supplies fairly plentiful. General direction NNE. Level road. Route leaves by the North Gate.
- 61 **Fu-t'un** (30 houses).
- 61¾ Route crosses the *Fu-t'un Ho*, a river 25 yds. wide, 1 ft. deep, crossed by stone-slab bridge. The river bed is 500 yds. wide, and sandy, as is some of the country in the vicinity, especially for ¼ mile on r. bank.
- 63 **Chai-shang**, also called Liu-chia-chai (35 houses).
- 67 **JIHCHAOHSIEN**, P., a walled city of 1,000 houses. General direction NE. Practically level road. In this section two hills, *Ssü Shan* (1,500 ft.) on r., and *Ho Shan* (2,000 ft.) on l., are passed. Route passes through the city of Jihchaohsien, and leaves it by the North Gate.
- 67¾ Stream 3 yds. broad, 3 in. deep, in sandy bed 60 yds. wide.
- 70 **Lien-ts'un** (50 houses).

miles	
72½	<b>Hsü-chia-kuan-chuang.</b>
74½	<b>Ch'a-lu-k'ou</b> (12 houses).
75½	<b>Chên-chia-chuang</b> (12 houses).
78½	<b>Sung-kang-kou</b> (25 houses).
80½	<b>Liang-ch'êng-chi</b> , village of 350 houses surrounded by a mud wall 20 ft. high. General direction N. Practically level road, with slight undulations.
81	Route crosses the <i>Yi-shui</i> , a stream 5 yds. broad by 6 in. deep, in a sandy bed 400 yds. wide.
83¾	<b>Hsien-ku</b> (30 houses), on l. of road.
85	<b>Kuo-chia-ch'iao</b> (12 houses).
88½	<b>Ch'üan-yi-ch'ang</b> , 60 houses, surrounded by a mud wall.
92	<b>San-li-chuang</b> (18 houses).
95	Route crosses stream of good water, 3 yds. broad and 3 in. deep.
96	<b>Ling-wu-kuan</b> , village of 30 houses. General direction N. Road through slightly undulating country, with one rise of 150 ft. leading up the valley of a small stream, ¼ mile wide, thickly wooded, and with hills sloping gradually up from it on either side.
99½	<b>Chang-ku-chuang</b> (45 houses).
103	<b>Shih-ho-t'ou</b> (35 houses).
106½	Route leaves the valley, and ascends very gradually to <b>T'ien-ch'i-ling</b> (15 houses) at the top of a ridge about 150 ft. above the plain. This ascent can only be made slowly by wheelbarrows. From here very gradual descent to
110¼	<b>Ch'ing-yün-ssü</b> (10 houses).
110¾	Route crosses stream (2 yds. broad and 3 in. deep).
111	<b>Hua-chia-chuang</b> (10 houses). General direction NE. Country slightly undulating. Road good for wheelbarrows.
115¼	<b>Pai-hsiang</b> (60 houses).
115¾	Stream 3 yds. broad and 3 in. deep, in sandy bed 300 yds. wide.



miles	
117 $\frac{1}{4}$	<b>Tsui-p'ô</b> (30 houses).
120	Deserted city of <b>Mu-ma-ch'êng</b> on l., surrounded by a mud wall. None of the houses are left standing.
121	<b>Li-ch'a</b> (45 houses).
122	<b>Kan-ku-chuang</b> (20 houses), on a stream 1 yd. broad and 2 in. deep.
125 $\frac{1}{2}$	<b>Chang-ying</b> , a village of 80 houses. General direction NE. Good wheelbarrow road over slightly undulating ground.
127	<b>Yang-ho-yai</b> (10 houses), with a mud wall. From here road follows l. bank of the valley of the <i>Yang Ho</i> , 5 yds. broad and 6 in. deep.
127 $\frac{1}{2}$	<b>Chang-chia-chuang</b> (30 houses). Road crosses a tributary (1 yd. broad and 2 in. deep).
129 $\frac{1}{2}$	<b>Wo-lou</b> (20 houses). Road turns l. away from the <i>Yang Ho</i> valley.
130 $\frac{1}{2}$	<b>Shan-ssü</b> (45 houses).
130 $\frac{3}{4}$	Stream 2 yds. broad and 1 in. deep.
134 $\frac{1}{2}$	<b>Tu-ts'un</b> (60 houses), on a stream 2 yds. broad and 3 in. deep.
138 $\frac{1}{2}$	<b>Li-chia-tien</b> (40 houses). From here there is a slight descent (50-100 ft.) into the plain of Kiao-chow.
143	<b>KIAOCHOW CITY</b> , P. T. RS., a large walled city. Route enters by the SW. gate, called the <i>Shun-tê Mên</i> . The railway station is outside it to the N., about 1 $\frac{1}{2}$ miles from the <i>Shun-tê Mên</i> .

(B) VIA CHŪCHOW SUNG (about 181 miles)

The route lies partly through well-cultivated and densely populated regions, partly through barren mountainous districts. In the former, much wheat is grown, also beans, sweet potatoes, kaoliang, and peanuts; cabbages and turnips are plentiful, but rice has to be imported; very little meat available. In the latter, some cattle, sheep, and chiefly pigs

are to be found, especially between Chüchow Sung and Chihkow (province of Shantung).

Road suitable only for wheelbarrows and small carts; fairly good in dry weather, but almost impracticable after heavy rain. In Shantung wagons drawn by oxen use it to a considerable extent.

As far as Tsingkow the present route is identical with Route 30 A. At Chü-ch'êng it reaches the lower spurs of the Shantung hills and continues in a mountainous district nearly as far as Chüchow Sung. The border of the Shantung province is crossed just below San-chieh-shou.

li	miles (approx.)	
0	0	<b>Sinpuchen</b> , P. (port of <b>HAICHOW</b> ). For details up to mile 19½ see Route 30 A.
	19½	<b>TSINGKOW</b> , P. T. (see <i>Gazetteer</i> ). Route leaves by the <i>North Gate</i> and continues NNW. among graves. Route A branches off to r. Fair 6-ft. road.
	21	Fair path (4 to 6 ft.) across fields.
	23¼	<b>Kanyü</b> , P. Town of 4,000 to 5,000 inhabitants, surrounded by battlemented brick wall. Said to be the resort of salt smugglers and brigands. (The harbour, <b>Chu-p'êng-k'ou</b> , is about 6 miles NE.) Route enters by small gate at eastern corner of S. wall, with single entrance. Main South Gate to W. of it has double entrance.
82 <sup>1</sup>	23¾	<i>Yamén</i> in centre of city. Road to Ichowfu turns off W. (see Route 31 A).
90	26½	<b>Chü-ch'êng</b> , small town with mud wall. Road leaves the plain and draws near to the embankments of the <i>Ching-k'ou Ho</i> (local name, <i>Hei-li Ho</i> ).

<sup>1</sup> The ¼ in this district is noticeably shorter than it is farther south. Here 10 li are approximately equal to 3 miles.

li	miles (approx.)	
110	33	<b>Pan-lu-ts'un</b> , village. About $1\frac{1}{2}$ miles to the r. of the road is <i>Wu Shan</i> , a high peak with mist-capped summit seen from as far off as Haichow.
120	36	<b>Hei-lin</b> , village. A few miles beyond it the road leaves the province of <i>Kiangsu</i> (here popularly called <i>Kiangnan</i> ).
135	$40\frac{1}{2}$	<b>San-chieh-shou</b> , first village in <i>Shantung</i> . Soil particularly stony and almost barren. Population sparse.
140	42	<i>Old Fort</i> to l. on a hill.
165	$49\frac{1}{2}$	<b>Shihtzelu</b> , P., village. Just beyond it road crosses the <i>Sha Ho</i> , a tributary of the <i>Shu Ho</i> .
190	57	<b>Yen-pin</b> , village (called Yen-tien on English and German maps). Road skirts the <i>Chin-ting-lien-hua Shan</i> , a conspicuous mountain to the E.
198	$59\frac{1}{2}$	<b>Shih-kou</b> , large village with white-washed cottages and of more prosperous appearance. The soil in the neighbourhood is more fertile (even vine and tobacco grown here). A little distance beyond the village land again stony and barren. General direction N.
210	63	<b>Tatien Sung</b> , P., small town.
230	69	<b>Hsiao-tien</b> , village.
250	75	<b>Shih-ching</b> , large village. Beyond the village the road leaves the hills, enters a fertile plain, and crosses the <i>Shu Ho</i> .
285	$85\frac{1}{2}$	<b>CHÜCHOW SUNG</b> , P. Some fine temples in good state of preservation. German and American missions. Important market for cattle, donkeys, and cloth. Beyond the town the route crosses the <i>Shu Ho</i> and lies again through hilly and sparsely populated districts. Several small villages; houses roughly built of stone with thatched roofs. Route leaves by the E. gate. Direction at first ENE., then NNE.

li	miles (approx.)	
	87	<b>Wu-chia-wa</b> , on r.
	88	<b>T'ao-yüan</b> , on r.
	88½	<b>Ch'i-li-chuang</b> .
	90	<b>Tung-chia-tao</b> .
	91½	<b>Yang-chia-tien-tzü</b> . An alternative route branches off to r., passes through a hilly district, and rejoins main road at Chucheng.
		Beyond the village route crosses a creek.
	92¾	<b>Chuang-to</b> , on r. Before reaching the village, route crosses another branch of the same creek.
	93¼	<b>Ch'i-chia-t'un</b> , on l. Route skirts low range of hills on l.
	94¼	<b>Hsiu-chuang</b> , on l. <b>Hsiao-hsiu-chuang</b> , on opposite side of road.
	95¼	<b>T'u-kou</b> .
	96¼	<b>Lu-wa</b> .
	96¾	<b>San-shih-li-p'u</b> .
	97½	<b>Shuang-miao</b> .
	98	<b>Hsiao-lo-chuang</b> .
	98¾	<b>So-chuang</b> .
	99½	<b>Chao-hsien-chi</b> . Several roads meet here. A road goes NW. to Ishui, another due N. to Ankiu. The present route continues NW.
	100¾	<b>Ta-p'u</b> .
	101¾	<b>Mei-chia-kuan-chuang</b> .
	102½	<b>Ch'ing-ko-tien</b> .
	103½	<b>Hsin-tien-chi</b> . Route passes at foot of hill on l.
	104¼	<b>Liu-chia-tien</b> . Route passes over hilly ground.
	106¾	Road crosses the <i>Wei Ho</i> , which from this point runs parallel with the road for a considerable distance.
375	107¼	<b>Kuan-shu</b> (Kuan-shui ?), large village, beyond which the road finally leaves mountainous district and enters well-cultivated and densely populated plain.

li	miles (approx.)	
	108	<b>Pei-tien.</b>
	112	<b>Lung-wang-miao.</b>
	116	<b>Wang-hu-chuang.</b> Road bends ENE.
	116½	Road crosses small tributary of the Wei Ho.
	117	<b>Hsiao-shan</b> , on l. Road bends E.
	120	<b>Hsiao-shih-ch'iao.</b>
	120¼	<b>Hou-wang.</b>
410	121	Route crosses over to r. bank of Wei Ho by a ford (which in winter presents no difficulties), and skirts hills on r.
	123	<b>Liu-ch'ing-ho.</b> Before entering the village route crosses a tributary of the Wei Ho.
425	124½	<b>Chihkow</b> , P., a large walled village. Direction NE.
	125	Route crosses another tributary of the Wei Ho.
	127	<b>Ch'iao-chuang.</b>
	128¾	<b>Shan-chuang.</b>
	130¾	<b>Wang-chia-tien.</b> Hills end here.
	131½	Route crosses the <i>Hsi Ho</i> , a tributary of the Wei Ho.
	132¾	<b>Lü-piao.</b>
	136	<b>Shih-li-p'u.</b>
	138½	<b>Cha-tao-k'ou.</b>
465	139¾	<b>Chucheng</b> , P., walled town with a small garrison. An important market for horses held outside the city gates. Route enters by W. gate and leaves by E. gate. Direction ENE. A road to Kaomi and another to Kingchih and to Ankiu leave by the N. gate.
	141¾	<b>Cha-ko-tien.</b>
	143	<b>Shih-li-pu.</b>
	143½	<b>Shui-chia.</b>
	145¼	Village, beyond which route crosses a branch of the <i>Lu Ho</i> .

li	miles (approx.)	
	146 $\frac{1}{4}$	Route crosses another branch of the Lu Ho, and passes through some villages.
	147 $\frac{3}{4}$	<b>Sha-lin-tzŭ.</b>
	148 $\frac{3}{4}$	<b>Sinhing, P.</b>
	149 $\frac{1}{4}$	Route crosses creek after passing through small village.
	149 $\frac{3}{4}$	<b>Tung-hsin-hsing.</b> Beyond this village route crosses another branch of same creek.
	150 $\frac{3}{4}$	<b>Hua-yŭan.</b>
	152	<b>Hsiao-sao-po,</b> on r.
	152 $\frac{1}{2}$	<b>Wang-chia-t'un,</b> on l.
	153 $\frac{1}{4}$	<b>Sao-po.</b>
	154	<b>Ko-chia-t'un.</b>
	155 $\frac{1}{4}$	<b>Chuang-chia-yo-k'ou,</b> on r.
	156 $\frac{1}{2}$	<b>Tsang-chia-t'un.</b>
	157 $\frac{1}{2}$	<b>Nei-kou.</b>
	159 $\frac{1}{2}$	Road bends N.
	160 $\frac{1}{4}$	<b>Sêng-chia-chuang.</b>
	161	<b>T'an-p'u-chi.</b> Route bends ENE. Road to Yang-ho branches off to r.
	172	Route passes through village and crosses the <i>Mi-shui Ho</i> .
	172 $\frac{1}{2}$	<b>Fan-ku,</b> on the opposite bank. Route again in mountainous district.
	174 $\frac{1}{2}$	<b>Kuan-ko-t'uan.</b>
	176 $\frac{1}{2}$	<b>Yin-chia-tien.</b> Route crosses a creek.
	180	Route follows bank of creek.
605	181 $\frac{1}{2}$	<b>KIAOCHOW CITY, P. T. RS.</b>

## ROUTE 31

## HAICHOW TO SÜCHOWFU

*Authorities:* G. E. Pereira, March, 1908; Official Survey of Tientsin-Pukow Railway, 1908 (Route A); W. Lewisohn, 1910 (Route B).

General direction W. There are three alternative routes.

(A) VIA KANYÜ AND ICHOWFU (179½ miles)

This route can be conveniently divided into 3 sections :

(1) *Haichow to Kanyü* (23¾ miles)

0        **Sinpuchen, P.** (Port of **Haichow**).

(For details see Route 30 B.)

23¾     **Kanyü, P. T.**

(2) *Kanyü to Ichowfu* (52 miles)

General direction NW. The road varies considerably. For the first 25 miles its width is from 6 ft. to 12 ft. ; and it is much cut up by wheelbarrows and farm-carts, for which latter it is practicable in spite of an occasional bad part. It widens in places to between 20 and 25 ft. There is a ferry over one small river ; and several beds of streams have to be crossed, some dry and others partially so. Between Chingchia-tien and Ichowfu its width varies from 6 to 15 ft., and it is in places sunken. It is for the most part in good condition, but in some places is furrowed by wheelbarrow ruts. The soil is generally sandy.

In the first stage there are hills and rising ground to the N. The plains are under crops of spring rice (? wheat). In the second, there are again low hills to the N. for the first 6 or 7 miles, and an occasional one to the S. ; otherwise it is uniformly flat.

Villages of mud huts are dotted about on the plains.

Wheelbarrows are the chief means of transport ; but there are also to be had a good number of well-constructed farm-

carts with sound wheels, drawn by bullocks and donkeys. Of these animals there is a large number, and there are besides a few water-buffaloes and mules. Peking carts can be hired at Ichowfu, but not on the Kiangsu side of the border.

Houses are of mud or loose stones. Inns poor.

A certain amount of metalling for the repair of the road would be obtainable.

The telegraph branches off to the W. after the first couple of miles, and is not seen again throughout the route.

miles

23½

**Kanyü, P.** From *Yamên* in centre of town, route leaves by *West Gate* (with single entrance) and continues W. across a plain dotted with villages. Crop of spring wheat in fields. In summer the chief crops are millet, beans, kaoliang, maize, and sesame. Fair 8-ft. road across the fields, though furrowed by farm-carts. Low hills in distance to NNW.

25½

**Shao-chia-lin** (20 houses).

26½

4-ft. to 6-ft. road across the fields.

28

**Chuang-chia-liu-ts'un** (80 houses).

**Chü-ch'êng**, town with mud wall, about 4 miles to N. (see Route 30 B, mile 26½).

29½

*Ch'ing-tun Ho*, 30 ft. wide, 3 ft. deep, crossed by tub-boat ferry.

30½

**Ch'ing-tun** (40 houses). Road 10 ft. wide, sunken 3-6 ft., with deep cart-ruts. Direction WSW.

31

**Ho-ts'ao** (50 houses). Road in poor condition, 4 ft. wide, on level with fields.

32

Road somewhat broken, 15 ft. wide, and slightly sunken. Direction W.

33½

**Ch'êng-t'ou-chên**, 200 houses with poor inns. Direction WSW., over slight ridge.

34½

Road 10 ft. wide, still rather cut up by wheelbarrows, and in parts sunken 3-6 ft.

35

Cross dry bed of stream.

36½

**Tien-ma-ch'ang** (50 houses).

37

Over another slight ridge. Direction W.



miles

37½

**Yen-chia-chuang** (40 houses). The *Chia Shan*, a 300-ft. peak, about a mile to N. High hills to NNE. From here, hills or rising ground are met with about a mile distant to the N. Higher peaks are sometimes seen behind them. Roads sunken in many places, and sometimes much cut up by ruts. Route crosses sandy river-bed.

39

**Ta-kou-yai** (50 houses), built partly of rough stones. Route is over lower slopes of hills on N. Plain on S. Road much cut up for a mile.

40

Road 10 ft. wide, and in fair condition. Direction WNW.

41½

**Hsin-chi** (100 houses). Road in places 30 ft. wide. Forward bearing, 280°. Leaving village, boundary of Shantung province is crossed.

44¼

Road crosses a down 50 ft. high, on top of which is **Ssü-chien-wu** (5 houses). Road 12 ft. wide, and in good condition, but gets narrower and broken as it descends.

Higher hills 3 or 4 miles to N.

45½

**T'ien-chia-hou** (80 houses), on lower ground.

46¾

**Pa-chien-wu** (8 houses) on top of a second down. Forward bearing 297°. Country stony. Fair road, in places 27 ft. wide.

49¼

**Ching-chia-tien** (150 houses).

Telegraph from Tsingkow to Ichowfu passes to S. of village, but after a mile or two is lost sight of, as road keeps farther N.

Direction 300° across plain, fair 15-25-ft. road. Peak of 400 ft., and lower hills 2 miles to N. Low downs two or three miles to S., running W.

Crop of spring wheat in fields.

50

**Yü-tien-tzū** (60 houses). Rising ground a mile to N.

52½

**Hsia-chuang**, 200 houses with inns. Direction NW. Soil rather sandy. Rising ground 600 yds. to r.

miles

- 53 $\frac{3}{4}$  Forward bearing 325° round orchard. Road crosses nearly dry, sandy river-bed.
- 54 **Kou-t'ou-chuang** (50 houses). Low hills 4 miles to N., gradually approaching to within 2 miles of road. Direction NW. Fair road 6-10 ft. wide across fields.
- 57 **Chang-chia-t'un** (40 houses). Forward bearing 325°.
- 59 **Shihputze**, P. (100 houses), with wall of loose stones. Forward bearing 305°.
- 60 $\frac{1}{2}$  **Yeh-pu-chuang** (20 houses). Hill 50 ft. high,  $\frac{3}{4}$  mile to l. Forward bearing 290°.
- 60 $\frac{3}{4}$  Route crosses nearly dry stream, followed by a sandy belt.
- 61 $\frac{1}{4}$  *Mao-tzü Ho*, flowing south, 1 ft. deep, crossed by brushwood bridge 45 yds. long; sandy bed. River always too shallow for boats, even in summer.
- 61 $\frac{1}{2}$  **Ch'en-chia-ts'un** (80 houses), on r. Through wood, many fruit-trees.
- 62 **Hsü-chia-ts'un** (100 houses), on r. Across fields. Direction NW.
- 62 $\frac{3}{4}$  **Chung-kou-chieh** (100 houses). Road turns to N. out of main street. Forward bearing 320° across cultivated plain dotted with villages. Good 10-ft. road.
- 64 $\frac{3}{4}$  **T'ien-chia-chuang** (10 houses). Forward bearing 300°.
- 66 $\frac{1}{4}$  **Ch'iu-ch'i-yüan** (40 houses). Direction NW. Road in places 4 ft. wide, and sunken 4 ft. below surface for a short distance.
- 67 **Yü-huang-miao** (200 houses). Forward bearing 295°.
- 68 **Shih-pei** (20 houses). Fair 10-ft. road.
- 70 $\frac{1}{2}$  **Po-pu** (100 houses), on r. Good 15-ft. road.
- 71 $\frac{1}{2}$  50-ft. hill,  $\frac{3}{4}$  mile to S.
- 72 $\frac{3}{4}$  **Li-chia-chuang** (60 houses), on r. 50-ft. hill 1 mile to S.
- 73 $\frac{1}{2}$  **Chiu-ch'ü** (20 houses). Road passes over river embankment 10 ft. high.

miles

73 $\frac{3}{4}$ 

Road leaves embankment and crosses sandy bed of *Yi Ho*, 1,800 yds. wide. River itself is crossed by four bridges of planks and low trestles, at points where the widths are 107, 66, 42, and 11 yds. respectively. River 1 ft. at deepest; water clear; bed sandy; direction of stream S.

House-boats can go to Tsingkiangpu in the summer.

74 $\frac{3}{4}$ 

Sandy belt ends. Road sunken 8 ft.

75 $\frac{1}{4}$ 

**ICHOWFU**, P. T. South gate with triple entrance. Walled city of 60,000 inhabitants.

### (3) *Ichowfu to Süchowfu* (103 $\frac{3}{4}$ miles)

General direction WSW. to Hanchwang, then S. The road varies considerably, but may on the whole be considered fair, averaging from 8 to 12 ft. in breadth, though in places it is no more than 4 ft. Occasionally it is rocky; sometimes much cut up with cart-ruts; and in the last stage parts of it are sandy. It joins finally with the broad 20-ft. main road from Yenchowfu to Süchowfu. It is much used by wheelbarrows, and is passable for carts throughout its length. The surrounding country is for the most part hilly, the highest peaks being from 400 to 500 ft. high. The hills are treeless and covered with grass. Sometimes they are stony. In the second stage the road runs through a valley formed by a chain of these rough hills for a distance of 2 $\frac{1}{4}$  miles.

Villages are numerous throughout the route. The houses are built of mud or of rough stones, and they and the inns are poor and primitive. The plains are cultivated, and at the time when this report was made, were under a crop of spring rice. Carts are difficult to get, and only occasionally available. Most of the transport is done by wheelbarrows, of which there are two kinds, one for a single man, and the other (known as *êrh-pa-shou*) for two. Donkeys and bullocks are fairly plentiful; there are also a few mules and ponies. Farm-carts in small numbers can be procured in some of the

villages. Near the *Grand Canal* they are more numerous, and those to the N. of it are of strong build, with two wheels; those to the S. have four.

The country from Ichowfu to Süchowfu is a poor one. It has not yet recovered from the effects of the T'ai-p'ing rebellion, and in 1907 was devastated by famine. As usual on the borders of provinces, brigands are numerous, but they do not molest Europeans. The part most infested by them is to the E. of this route; more particularly the city of Tancheng, which has a bad reputation for desperate characters (see Route 32 A, mile 107).

miles

- |                  |   |
|------------------|---|
| 75 $\frac{3}{4}$ | <b>ICHOWFU</b> , P. T. Route leaves through <i>South Gate</i> and suburb beyond it (mud wall 14 ft. high).  |
| 76 $\frac{1}{4}$ | Forward bearing 233° across plain, under spring wheat, dotted with villages. 50-ft. sandy hills S. of S. suburb. Good 15-ft. road. Road crosses two or three dry river-beds by bridges paved with stone. Many donkeys and bullocks in fields.   |
| 78 $\frac{3}{4}$ | <b>Ch'i-li-kou</b> (70 houses), with a mud wall, 300 yds. to r.   |
| 81 $\frac{1}{4}$ | <b>Pai-chia-chuang</b> (40 houses). Good 12-ft. to 15-ft. road. Forward bearing 213°.   |
| 83 $\frac{1}{4}$ | <b>Hu-tz'ü-yai</b> (200 houses), on a down 50 ft. above level, running east. Road rocky for 200 yards. Hills in distance to W.  |
| 85               | <b>Chuchen</b> , P. Over 1,000 stone houses, surrounded by 8-ft. to 14-ft. wall of loose stones. Chief industry is the manufacture of earthenware pottery. <i>T'ai-liu Shan</i> , two 400- to 500-ft. peaks, 5 $\frac{1}{2}$ miles to SE. Road crosses stone bridge over the <i>Chuchen Ho</i> , 40 yds. wide, 9 in. deep, flowing W.; then over a rise of 30 ft. and across plain. Broken hills 300 ft. to 400 ft. high, 5 or 6 miles to W. Good 8 to 12-ft. road. |
| 88 $\frac{1}{2}$ | <b>Li-chia-chuang</b> (50 mud huts). Good 6- to 8-ft. road. Undulating country 1 mile to E.   |
| 90 $\frac{1}{4}$ | Over 20-ft. ridge.  |

miles

- 90 $\frac{3}{4}$  **Ching-shan** (50 stone houses). *Ching Shan*, 100 ft. high, on r. Along rocky and stony road, with 50-ft. hills one to two miles on r.
- 92 $\frac{1}{2}$  *Shên Shan*, with tower on top, 300 ft. high, and lower stony hills 200 yds. on l.
- 93 **Liu-hao-tien** (70 stone houses). Very stony and rocky road. Slight and gradual rise.
- 94 $\frac{1}{4}$  Road still for the most part rocky. Ground slightly undulating. 200-ft. hills 400 yds. on r. 300-ft. hills  $\frac{3}{4}$  mile on l., running SW.
- 95 **T'ao-shan-tien** (30 stone houses).
- 95 $\frac{1}{2}$  100-ft. hills, running SW.,  $\frac{3}{4}$  mile to r. Good 6 to 8-ft road. Very gradual rise.
- 96 $\frac{3}{4}$  Over 20-ft. rocky ridge. Hills to l. recede. Across plain, hills 6 or 7 miles to r., running S.
- 98 $\frac{1}{4}$  **Tso-ch'êng** (70 stone houses), on l.
- 100 $\frac{1}{4}$  100-ft. hills, 3 miles on l., and 1 mile on r. **Yen-t'ou-tien** (50 mud huts), on r. Road crosses *Yen-t'ou Ho*, 20 ft. wide, 6 in. deep, with clear water and sandy bed, by stone bridge (paved) on 25 low stone piers. River flows SE. Road beyond rocky, with 50-ft. hill (temple on top) on l.
- 101 $\frac{1}{4}$  **Pienchwang**, P. 600 houses. Forward bearing, 235° across plain; hills on r. gradually recede, plain stretches away to l. Good 12-ft. road. Villages fairly numerous.
- 102 $\frac{1}{4}$  **Tai-chia-ts'un** (70 houses).
- 102 $\frac{1}{2}$  Stone bridge over nearly dry canal.
- 104 $\frac{1}{4}$  **Hsiao-chuang** (70 houses), on l.
- 106 $\frac{3}{4}$  **Yü-kou** (100 houses). Good 6-ft. road. Broken hills 100 ft. to 300 ft. high, with occasional higher peaks 6 or 7 miles to r. Canal on l., for the most part dry.
- 107 $\frac{3}{4}$  **Ma-chia-yü-kou** (50 houses). Road 6 ft. wide, and furrowed by ruts.
- 109 $\frac{1}{2}$  **Ch'ên-chia-ch'iao** (100 houses). Route crosses *Ch'ên-chia Ho* by low stone bridge, 96 paces long.

miles

- Water clear ; 20 ft. wide, 6 in. deep : flowing SSE., in nullah 30 ft. deep.
- 110 Hills receding 4 miles to N. A low peak several miles to SSW.
- 111 $\frac{1}{2}$  **Ma-chia-lou** (80 houses), on r. Fair 6- to 12-ft. road.
- 112 $\frac{3}{4}$  100-ft. hill 300 yards to r.
- 113 $\frac{1}{4}$  **Jên-chia-p'u** (80 houses). Undulating on r., with 100- to 200-ft. hills 2 miles beyond. 50-ft. hill  $\frac{3}{4}$  mile to l.
- 114 $\frac{1}{2}$  Road along rising ground at foot of hills on r.; plain on l., with a few low hills in distance. Road stony, and broken in places, 4 ft. wide as a rule.
- 115 $\frac{1}{2}$  **Tung-hsin-hsing** (50 stone houses). Mostly good 8-ft. road across plain, though broken in parts. Hills 2 miles distant on r.
- 116 $\frac{3}{4}$  **Hsi-hsin-hsing**, market village of 60 houses. Road rocky and broken, 4 to 6 ft. wide, rising ground 4 miles to l., running NW. Low hills 2 miles to r. Fewer villages.
- 117 $\frac{1}{4}$  400-ft. hills 2 miles on l. ; 100-ft. hills 1 mile on r.
- 119 **Fu-shan-k'ou** (50 stone huts), with low, stony hills, 300 yds., increasing to 1 or 2 miles, distant on either side. Fair 4-ft. road.
- 120 $\frac{1}{4}$  **Lo-têng-chieh** (50 houses). Road crosses small stream flowing SE., in nullah 20 ft. deep. Road stony.
- 120 $\frac{1}{2}$  **Shih-la** (20 houses). 100-ft. hill 600 yds. to r. ; and another  $\frac{1}{2}$  mile to l.
- 120 $\frac{3}{4}$  Fair 6-ft. road, occasionally stony, along valley between broken and irregular hills 1 mile to r., and 1 $\frac{1}{2}$  mile on l.
- 122 $\frac{1}{4}$  Cross nullah, 10 ft. deep, running SW.
- 123 **Hsia-chuang** (40 houses). Direction 243°, still along valley ; fair 6- to 8-ft. road, broken in places.
- 124 $\frac{1}{2}$  Hills on l. end. Route is across plain, with broken 200- to 300-ft. hills, 1 to 1 $\frac{1}{2}$  miles on r. Distant hills on SSW., SW., and WSW.

miles

- 125 $\frac{1}{4}$      **Hsien-jên-ch'iao** (10 houses). Road crosses by stepping-stones nearly dry stream flowing SSE., in nullah 20 ft. deep.
- 126 $\frac{1}{2}$      **Ta-kuan-chuang** (40 houses). Farm-carts in villages.
- 127 $\frac{1}{4}$      Road in places sunken 8 ft. 300-ft. hills 1 $\frac{1}{2}$  miles on r.
- 128 $\frac{1}{4}$      **Ts'ao-chia-chuang** (40 houses) on r.
- 129     **Ch'i-li-tien** (40 houses), with an inn. 200-ft. and 300-ft. hills, 4 or 5 miles on l.
- 129 $\frac{1}{2}$      **T'ien-chia-lou** (30 houses). Hills  $\frac{1}{2}$  mile on r. Good 10-ft. cart-road.
- 130 $\frac{1}{4}$      Road enters small E. suburb. The *T'an Shan*, 500 or 600 ft. high,  $\frac{1}{2}$  mile to the N., is at the entrance to a valley, running NNW.
- 130 $\frac{3}{4}$      **YIHSIEN**, P. T., a city between 700 and 800 yds. square, with usual type of battlemented wall (chiefly stone, with some bricks), 25 ft. high, surrounded by dry moat. The North Gate is single and the West Gate double. There is little waste ground inside the walls; houses are mostly of mud. Outside each of the four gates there are small suburbs of which the southern is the largest. Missionaries estimate the population at 20,000. It is probably, however, not more than 10,000 at the most. The American Presbyterians have four members in S. suburb, and the German Catholic Mission one priest in the city. Garrison consisted of 40 or 50 soldiers belonging to the magistrate, called Hsien-fang-tui or Hsien-tui, and 25 police. The city lies in NW. corner of a plain with 300-ft. hills to W. and SW. and *T'an Shan* NNE. There are valleys running NNW. and WSW.
- The *T'ang-lang Ho*, a small stream, runs in a northerly direction outside the wall, then turns S. At this time of the year (March) it is only a few inches deep, but it is liable to flood the country S. of the city in the rainy season. Owing to the lowness of the

miles

bridges even small boats cannot pass from Yih sien to the *Grand Canal*, when the river is high. At the West Gate it is crossed by a low, broad, stone bridge leading to the W. suburb.

25 li to the NNW. are the coal mines of **Tsao-chwang**, said to be the largest in Shantung. A standard-gauge railway connects the mines with Lin-cheng Sung on the Tientsin Pukow line—distance 19 miles. Another line connects the mines with Tai-erh-chwang on Grand Canal—distance 26 miles. See Route 19, sect. 2, mile 120, and Chap. IX, railway No. VIII.

Route enters by the *East Gate* with double entrance. After 300 yds. road turns S. into the centre of the city, and 350 yds. from this point leads through the *South Gate* with single entrance.

131½

Inn in S. suburb.

The road leaves S. suburb of Yih sien, at forward bearing 185° across a plain, with *Hsing-lung Shan*, 500 ft. high, 2 miles WNW. The *T'ang-lang Ho* runs S., on r. of road. It is 20 ft. wide, 6 in. deep at deepest, and runs in a nullah 30 ft. deep. Good 12-ft. road.

132

Road sunken 8 ft. for ¾ mile.

132½

Cross the *T'ang-lang Ho* by low bridge unevenly paved with stone, 52 yds. long, 6 ft. to 8 ft. wide. Route leads through valley five miles wide, bounded by hills bare of trees, 300 to 500 ft. high. At the southern entrance is the *Chai Shan* (400 ft.), and at the northern the *Hsing-lung Shan*. Road on level with fields, 8 ft. broad, and furrowed by cart-ruts.

134½

**Hao-kou** (30 houses), on l.

134¾

Join main road, coming from West Gate of Yih sien. Many small villages of mud huts. A good many farm-carts, usually drawn by two bullocks and a donkey. 12-ft. road, rather sandy, and occasionally sunken.



- miles
- 135 $\frac{3}{4}$  **Han-chia-lou** (40 houses), on r. Road bends to l. towards hills.
- 137 $\frac{1}{4}$  50-ft. spur from southern hills  $\frac{1}{2}$  mile to r.
- 137 $\frac{1}{2}$  **Pu-chia-ts'un** (50 stone houses).
- 138 $\frac{1}{4}$  4-ft. rocky road passes over 20-ft. bridge, and then becomes sandy, and in places sunken three or four ft. Hills closing in on both sides. Country undulating.
- 139 $\frac{1}{2}$  **Wang-chia-shan-k'ou** (50 houses), on side of 100-ft. hill to r. Gradual rise over rocky hills; road rocky in parts.
- 140 $\frac{1}{4}$  Top of 150-ft. rise. Road in descent rather broken, and 4 ft. broad.
- 140 $\frac{3}{4}$  **Li-chia-shan-k'ou** (10 houses), on r. Across plain, at first slightly undulating. Many villages. Hills opening out on either side. Fair 4-ft. road, though rather broken, and occasionally sunken 6 ft.
- 141 $\frac{3}{4}$  **Ts'ai-yüan** (40 houses), 100 yds. on l. Plain now level.
- 142 $\frac{3}{4}$  **Chao-chia-chuang** (30 houses), on l. Road crosses shallow stream in nullah 10 ft. deep.
- 145 **Chowkiaying**, P. (800 houses). First forward bearing 212° across plain, slightly undulating for first mile. 10-ft. road, sandy, and rather cut up by ruts. Many small villages.
- 148 **Sha-ching** (30 houses), on r.
- 148 $\frac{3}{4}$  **Liu-chia-ch'iao** (50 houses), with small stone bridge over nearly dry stream.
- 150 $\frac{1}{2}$  Under telegraph (with four wires) running NW.
- 151 **Hanchwang**, P. T. R.S., large village (500 houses), mostly on the N. side of the *Grand Canal* (see Route 19, sect. 2, mile 149).
- Tientsin-Pukow Ry. passes to the E. of village, crosses the *Grand Canal*, and runs near the road all the way to Süchowfu. The telegraph line runs E. to Taierhchwang and S. to Süchowfu.
- Route crosses *Grand Canal*, at time of year referred

miles

to in report, by temporary bridge of boats, when it is a muddy stream, 20 ft. wide and 13 in. deep at deepest, 30 ft. below level of country. Current flows to the E. Bearing 285° up canal, to a double lock,  $\frac{1}{2}$  mile distant, dammed with boards, and with an earth dam 100 yds. farther W. to keep out the water of the *Wei-shan Hu* (more usually called *Yi-shan Hu*). This dam is sometimes cut by order of the Tao-t'ai when the water in the canal is exceptionally low ; but this is rarely done, as the lake water is required to supply a canal running to Sūchowfu.

After crossing the *Grand Canal*, route joins main road from Yenchowfu and Tsinan. It is 15 ft. wide, sandy and furrowed by cart-ruts. Many farm-carts, with four solid wheels like those in region of the *Huai River*. Route crosses plain cultivated with spring wheat and dotted with villages. Telegraph to Sūchowfu 300 yds. to l., just beyond railway line.

152 $\frac{3}{4}$  **Ling-tzū** (30 houses). Irregular 400-ft. hills running WSW. four or five miles to l. Road 20 ft. wide.

153 $\frac{1}{4}$  Route crosses Shantung-Kiangsu border.

154 Oil factory on r.

154 $\frac{1}{2}$  **Likwoyi**, P. RS. About 1,000 houses. Nearly dry stream, crossed by stone bridge with three arches. Country undulating ; 15 ft. road, uneven and sandy, very stony for 300 yds. Bare and irregular grass hills, 200 to 400 ft. high,  $1\frac{1}{2}$  to 2 miles on l., running parallel to road. Telegraph and railway 100 yds. on l. Plain under cultivation. Few villages.

155 Gradual ascent over spur of hill. Road 25 ft. wide, and at first stony.

155 $\frac{1}{2}$  Road level ; 200-ft. hill,  $\frac{1}{2}$  mile on r.

155 $\frac{3}{4}$  **Mao-shan**.

156 $\frac{1}{2}$  **Lo-chuang**.

157 $\frac{1}{4}$  **Ti-pa** (Chi-phu), 70 stone houses. Road stony and sunken 3 ft., but no longer sandy. Forward bearing

- miles | 190°. Irregular 100-ft. to 200-ft. grass hills about  $\frac{1}{2}$  mile on r.
- 159 $\frac{1}{2}$  | **Kao-huang-miao** (30 stone houses), with watch-tower on 30-ft. mound on l.
- 160 $\frac{1}{2}$  | **Tung-kuan**, on l.
- 160 $\frac{3}{4}$  | Stony road, with gradual rise. Rocky hills,  $\frac{1}{2}$  mile distant on either side.
- 162 $\frac{1}{4}$  | **Wu-li-tien** (10 stone houses), on top of 100-ft. rise. Descent gradual and stony. Telegraph crosses to r. of road.
- 163 $\frac{1}{4}$  | Level road, through undulating country. Forward bearing 165°. Hills  $\frac{3}{4}$  miles on l. and  $\frac{1}{2}$  mile on r., gradually receding.
- 163 $\frac{3}{4}$  | **Liu-ch'üan** (Liu-chuang), RS. (80 stone houses), surrounded by 8-ft. wall of loose stones. Telegraph along valley, bearing 140°. Road cut up by ruts, and no longer stony. Railway crosses the road from l. to r. and  $\frac{1}{2}$  mile beyond crosses again to l. of road.
- 164 $\frac{1}{4}$  | Forward bearing 220°. A smaller road goes straight on to **Shih-tsai-yi**, 1 $\frac{1}{2}$  miles distant. Hills, 1 $\frac{1}{2}$  miles away, on either side.
- 165 $\frac{3}{4}$  | **Tien-tzŭ-chieh** (50 stone houses). Hills  $\frac{1}{2}$  mile away on r. and  $\frac{3}{4}$  mile on l.
- 166 $\frac{1}{2}$  | **Kang-shang** (10 houses). Sandy road, stony in parts, but on the whole in better condition.
- 167 $\frac{3}{4}$  | **T'an-shan** (30 houses,) at foot of hill on r.
- 168 $\frac{1}{4}$  | **Yo-li** on l.
- 168 $\frac{3}{4}$  | **Tien-chieh** (Dien-tse) on r.
- 169 $\frac{1}{2}$  | Pass between stony 100-ft. hills.
- 170 | **Mao-ts'un**, RS. (apparently this is the place marked Mei-chuang-tien on Chinese map). Village of 70 houses. The railway station is near the road about 1 mile farther S. Plain opens out. Wheelbarrows, lightly loaded, can perform the distance (15 $\frac{1}{2}$  miles) from Likwoyi in 5 hours. Route crosses three-arch

miles

bridge over nearly dry canal, connecting the south end of *Wei-shan* Lake with the *Grand Canal*, near which it becomes practicable for boats. Road leads across plain, the only hills in sight being some low ones, three or four miles distant on l. Small villages dotted about. Plain under crop of spring wheat. | Road 20 ft. wide, sandy, and for the most part in good condition.

171 $\frac{1}{4}$  **Kuang-tsai**, village near Mao-ts'un railway station.

171 $\frac{1}{2}$  **Kuang-chên**.

172 $\frac{1}{2}$  Hill 50 ft. high on l.

172 $\frac{3}{4}$  **Ta-shan** (40 mud huts).

173 $\frac{1}{4}$  Combined bridge and lock over small stream. Hill 50 ft. high,  $\frac{1}{2}$  mile on r.

174 **Pao-chêng**. Irregular hills, 100 to 200 ft. high,  $\frac{3}{4}$  mile on r., and others 2 or 3 miles on l., both trending SW. Telegraph  $\frac{3}{4}$  mile distant on l.

176 **Pa-li-t'un** (100 houses), on l. Hills here 1 mile distant on l.

177 $\frac{1}{2}$  **Kao-t'ou-peï** (or Wang-chêng?), 150 houses;  $\frac{1}{4}$  mile farther the outer embankment of old Yellow River, 30 ft. broad, is crossed, after which follows a flat belt 600 or 700 yds. wide, with **Pa-tzŭ-chieh**, a sort of N. suburb on S. side of it.

178 $\frac{1}{2}$  Leave Pa-tzŭ-chieh across belt of cultivation lying in the old bed of the *Yellow River*. Barracks on E. near E. bank of river-bed.

179 **SÜCHOWFU**, P. T. RS. (see *Gazetteer*). The city has a double wall: the outer one, evidently built as a barrier against the Yellow River, now serves as an extra defence against robbers. It is of mud, and faced with stone from the NW. corner to the SE., where it used to form an embankment to the *Yellow River*. The inner wall is of stone on the north side, brick and stone on the remainder. The railway station is on the opposite bank of the old river-bed.

179 $\frac{1}{2}$  Route ends at *North Gate* of the city.

## (B) VIA TSINGKOW AND ICHOWFU (about 176 miles)

Most of the way this route is identical with Route 31 A, except that it avoids the detour via Kanyü and shortens the journey by some 3 miles. Route 31 A is left at Tsingkow and rejoined at Hsin-chi. In the intervening section the road is bad, with many deep holes. In fair weather it is utilized by wheelbarrows and donkeys; after rain it becomes almost impassable. General direction W., then NW. Villages very poor and mostly in ruins. The country is a rolling plain, planted chiefly with black beans and cotton. Route crosses several streams all flowing S., broad but nowhere 3 ft. deep, and fordable.

li	miles (approx.)	
0	0	<b>Sinpuchen</b> , P. (port of <b>Haichow</b> ). For details up to mile 19½ see Route 30 A.
65	19½	<b>TSINGKOW</b> , P. T. (see <i>Gazetteer</i> ). Route leaves by SW. Gate, and crosses river outside the gate by ferry. Forward bearing 280°.
75	22½	<b>Shih-li-p'u</b> . Forward bearing 265°.
80	24	<b>Ta-hsü-ho</b> .
88	26½	<b>Chü-fên-tien</b> . Forward bearing 260°.
103	31	<b>Hsing-tou</b> (presumably Hsiang-tou of the German map). Before reaching this village route crosses stream flowing S.
106	31¾	Route crosses stream flowing S.
116	34¾	Route crosses another stream flowing S.
128	38½	<b>Hsin-chi</b> (or Hsin-chi-tzü). Route crosses stream just below the village and rejoins Route 31 A.

## (C) VIA TSINGKIANGPU (about 204 miles)

The route comprises 2 sections :

(1) *Haichow to Tsingkiangpu* (79½ miles). (For details see Route 28 B.)

(2) *Tsingkiangpu to Süchowfu* (124½ miles). (For details see Route 33 A.)

## ROUTE 32

## TSINGKIANGPU TO ICHOWFU (SHANTUNG)

*Authorities:* Richthofen, vol. ii, March, 1869; Gandar, *Canal Impérial*, 1894; North China Route Book, 1901-4; German map of Chihli and Shantung, 1907; War Office MS. maps of North Kiangsu.

General direction NNW. There are two alternative routes :

(A) VIA SUTSIEN (470 li = 142½ miles)<sup>1</sup>

General direction NNW. This is the main trade route. Goods coming by the Grand Canal from Chinkiang are unloaded at Tsingkiangpu and generally transported farther N. by this road, at all events for some distance (to avoid the difficult locks above Tsingkiangpu). The road lies mostly in the plain; the chief gradient is a few miles beyond Sutsien. Soil mainly alluvial and well cultivated.

li	miles (approx.)
0	0

**TSINGKIANGPU, P. T. RS.** (see *Gazetteer*).

Route leaves the stone lock bridge over the *Grand Canal* outside the *East Gate*, and proceeds N. leaving the town by the *North Gate* in the mud wall. Thence it lies across an open plain, and leaving the barracks of 3,000 men of the Lu Chün on l., crosses the old bed of the Yellow River. The bed is sandy, fairly level, and about ¾ mile wide. In the centre a stream runs through a channel about 200 yds. wide and 12 ft. deep. It is crossed by a footbridge. The high embankments of the Yellow River are still standing.

<sup>1</sup> The distances in li are those given by Gandar from Chinese sources. Distances in miles have been measured on maps. They can only be considered approximate, but, on the whole, they seemed more probable than those indicated in the North China Route Book. The latter gives the following distances : Tsingkiangpu to Shun-ho-chi (Sutsien) 48 miles; Shun-ho-chi to Ssü-wu 21 miles; Ssü-wu to Hung-hua-pu 18 miles; Hung-hua-pu to Tancheng 3 miles; Tancheng to Shih-li-p'u, 13½ miles; Shih-li-p'u to Likiachwang, 12 miles; Likiachwang to Ichowfu, 10½ miles; total distance, 126 miles.

i	miles (approx.)	
	2	<b>Wangying</b> , P., walled market town of 400 houses. Pack-animals and conveyances can be hired here for all parts. Within the town route turns W. and leaves by the W. Gate. The road through the N. Gate leads to Haichow (see Route 28 B).
	3½	<b>Sipa</b> , P. RS. (100 houses), salt dépôt. Route crosses the <i>Yen Ho</i> (No. 1) at NE. end of town.
	4	Route crosses embankment of <i>Yen Ho</i> (No. 1). General direction NW. For the first 6 miles route lies along sandy soil, then enters a fertile and well-cultivated plain.
40	12	<b>Yükow Ku</b> , P., walled town. Route enters by E. Gate and leaves again at NW. corner of mud wall. General direction W. Road again draws near to Grand Canal.
	19	<b>Lai-an-chi</b> .
70	21	From this point onward road partly on bank of Grand Canal (20 to 30 yds. wide), partly on the neighbouring plain.
80	24	<b>Chunghing</b> , P. T., on the E. bank of Grand Canal (cf. Route 19, sect. 2, mile 33).
	30	<b>Shih-chi</b> .
140	42	<b>Yanghwatsi</b> , P., near Grand Canal. Route crosses the <i>Liu-t'ang Ho</i> , a creek going from <b>Liu-lao-chien</b> (on the Grand Canal) to Wu-chang-ho (on <i>Yen Ho</i> , No. 1) : see Route 28 A, mile 37¾.
200 <sup>1</sup>	56	<b>SUTSIEN</b> , P. T., the main town on W. bank of Grand Canal. The route is through a suburb on E. bank called <b>Shun-ho-chi</b> . Beyond the town the route lies across the dry bed of the <i>Liu-t'ang Ho</i> . There are remains of

<sup>1</sup> These distances are given by Gandar from Chinese sources; judging from the maps they appear considerably over-estimated.

li	miles (approx.)	
		a great brick and stone bridge, by which the road formerly crossed the river. Beyond the bridge, road rises 160 ft., passing over spur of <i>Ch'ang Shan</i> (a hill 250 ft. from which a fine view is obtained).
	60	<b>Lung-t'ing-pu.</b>
	64	<b>Hsiao-tien-chi.</b>
	68	<b>Ch'ang-shan-pu</b> , village. Route lies again in the plain.
	69	<b>Hsiao-ho.</b>
	71½	<b>Ch'iao-pei.</b>
260	74	<b>Ssü-wu</b> , village.
	81	<b>T'ang-chia-tien.</b>
305	87½	<b>Liu-ma-chuang</b> , village.
313	90	Border of the province of Shantung.
320	92	<b>Hung-hua-pu</b> , first village in Shantung. Road rises slightly.
	107	<b>Tancheng</b> , P. T., small town. It has a bad reputation for smugglers and brigands.
380	110	<b>Shih-li-p'u</b> , village.
	115½	<b>Ta-pu.</b> An alternative road branches off to r. and passes through a hilly district. Present route continues on the plain, skirting the foot of hills on r.
	118	<b>Ma-t'ou.</b>
	120¾	<b>Sha-t'un.</b> Hills recede to E.
	123	<b>Kua-p'u.</b>
	124½	<b>Chu-kuo-tien.</b>
	125¼	<b>Chieh-p'u.</b>
	126½	Alternative route rejoins main road.
425	127½	<b>Likiachwang</b> , P. Route turns E. and crosses the <i>Yi Ho</i> , a river from 200 to 400 ft. wide and 3 to 6 ft. deep, which flows S. into the Grand Canal (see Route 19, sect. 2, mile 88). Beyond the <i>Yi Ho</i> the road forks; branch to r. runs almost parallel to the r. bank of the



li	miles (approx.)	
		Yi Ho all the way to Ichowfu. The present route continues in an easterly direction.
	129½	Route bends NW.
	132¼	<b>Hsiao-li-chia-chuang.</b>
	136	<b>Kao-chia-chuang.</b> Direction N.
	138	<b>Shih-li-p'u.</b> Alternative route rejoins main road.
	139½	Road bends NNW.
	140½	<b>Nan-yen.</b>
	141¼	<b>Wan-tsun.</b> Several roads meet here. Shortest route turns N. and passes through an extensive suburb.
470	142¼	<b>ICHOWFU</b> , P. T., a poor city (estimated pop., 80,000) situated in a plain bordered on NNW. by high rocky mountains. Houses mostly thatched. Large trade in pigs and donkeys. Coal mines in the neighbourhood. Several important trade routes meet here. Germany held a concession from the Chinese Government for building a railway from Kaomi (near Kiaochow) to Hanchwang (on Grand Canal) via Ichowfu and Yih sien (see railway No. XVIII). Route ends at S. Gate of city.

## (B) VIA HAICHOW (155¼ miles)

This route comprises the following sections :

(1) *Tsingkiangpu to Haichow* (79½ miles)  
(For details see Route 28 B.)

(2) *Haichow to Ichowfu* (75¾ miles)  
(For details see Route 31 A, sect. 1 and 2.)

## ROUTE 33

## TSINGKIANGPU TO SÜCHOWFU

*Authorities* : Shantung, War Office Map, 1905 ; War Office MS. maps of N. Kiangsu.

General direction NW. Tsingkiangpu and Süchowfu are being connected by a railway (for details see Chap. IX, railway No. X).

In addition to the railway there are three alternative routes.

(A) LAND ROUTE VIA CHIU-P'EI-CHOU (about 124½ miles)

As far as Sutsien this route is identical with Route 32 A. Opposite Sutsien it crosses the *Grand Canal*, follows along N. embankment of the old bed of the Yellow River, as far as Chiu-p'ei-chou, then continues NW. across the plain.

miles  
(approx.)

0

**TSINGKIANGPU**, P. T. RS. (see *Gazetteer*). Route leaves the stone lock bridge over the *Grand Canal* outside the *East Gate* and proceeds N., leaving the town by the *North Gate*.

For details up to mile 56 see Route 32 A.

56

**SUTSIEN**, P. T. The main town on W. bank of Grand Canal is entered after crossing the canal.

Main route to Ichowfu leaves E. bank, turning away NNE. (see Route 32 A).

General direction NW. Road along the N. embankment of the Yellow River, which for the first 13 miles runs almost parallel to W. bank of Grand Canal.

69

**Tsaoho Ku**, P. Route continues along embankment, which here bends W., away from Grand Canal. Alternative Route B branches off to N.

76

Road from Yaowan (10 miles N.) to Suining Ku (12 miles S.) crosses the present route.

81

**Chiu-p'ei-chou**.

miles (approx.)	
83	Route leaves embankment, turns N. for 1 mile.
84	Road branches off NW.
89	A road from Tushan (5 miles N.) crosses route and goes to Ch'ên-chi (7 miles S.).
90	<b>Liu-chi-chuang</b> , on l.
92	<b>Chan-chêng-chi</b> .
97½	<b>Shun-ho-chi</b> . A road to l. passes the <i>Yang-chia Hu</i> and continues to Li-chi (5 miles S.).
101	<b>Tan-chi</b> . Roads branch off N. and S.
103¼	Road N.-S. crosses route.
107	<b>Kang-shang-chi</b> .
112½	<b>Wei-chi</b> .
116½	Route again crosses embankment of Yellow River.
118	<b>Chao-chi</b> , a village situated in the old bed of the Yellow River.
119	Route recrosses embankment.
124½	<b>Süchowfu</b> , P. T. RS. (see <i>Gazetteer</i> ). Before entering the city route crosses the old bed of the Yellow River.

## (B) LAND ROUTE VIA YAOWAN (133 miles)

0	<b>TSINGKIANGPU</b> , P. T. RS. For details up to mile 69 see Route A.
69	<b>Tsaho Ku</b> , P. Route leaves embankment of Yellow River and follows W. bank of <i>Grand Canal</i> .
81	<b>Yaowan</b> , P. T. Route leaves Grand Canal and turns off due W.
94	<b>Tu-sao</b> .
103	<b>Pa-hsia</b> .
111¼	<b>Tso-chuang</b> .
118½	<b>Ta-miao</b> .
130½	Route crosses old bed of <i>Yellow River</i> .
133	<b>SÜCHOWFU</b> , P. T. RS. (see <i>Gazetteer</i> ). Important railway junction on the Tientsin-Pukow and Kaifeng-Tsingkiangpu lines.

## (C) WATER AND LAND ROUTE (about 140 miles)

This route is by the *Grand Canal* as far as **Yaowan**, thence by land as in Route B.

miles (approx.)	
0	<b>TSINGKIANGPU</b> , P. T. RS. Route leaves from first lock outside the <i>East Gate</i> by the <i>Grand Canal</i> . For details to mile 88 see Route 19, sect. 2.
88	<b>Yaowan</b> , P. T., town on left bank. From here the route is by land. (For details see Route B.)
140	<b>SÜCHOWFU</b> , P. T. RS.

## ROUTE 34

## SÜCHOWFU TO LINHWAIKWAN (ANHWEI) (about 116½ miles)

*Authorities:* French Map, 1901; Official Survey of Tientsin—Pukow Railway, 1908; W. Lewisohn, 1910.

General direction S. The two towns are connected by the Tientsin—Pukow Ry. Distance by rail 117½ miles. (For details see Chap. IX, railway No. VI.)

The present route lies along the main trade road connecting Peking with Nanking. It is everywhere passable for carts. Only the first 20½ miles lie in Kiangsu, the rest in the province of Anhwei. Most of the way it keeps within short distance of the railway. From mile 6¾ to mile 41½, the road is flanked by hills on either side. Elsewhere it passes through perfectly flat country, fertile and well cultivated, but liable to be flooded during the rainy season.

Floods render the road impassable, but do not interfere with the railway, the track of which has been laid on a high embankment.

Between Kuchen An and Linhwaikwan the Kuei Ho provides an alternative water route, but navigation on this river is difficult on account of shifting sand-banks, and the journey

is considerably longer than by road, even when the Nan Hu, a short cut between the Kuei Ho and Linhwaikwan, has sufficient water for the passage of boats. Otherwise boats have to follow down the Kuei Ho to its mouth, near Wuhohsien, and then turning at sharp angle ascend the Huai River to Linhwaikwan.

miles

- |     |  |
|-----|--|
| 0   | <b>SÜCHOWFU</b> , P. T. RS. (see <i>Gazetteer</i> ). Starting from South Gate of city, route passes through extensive suburb. Direction S. then SSE. |
| 2½  | <b>Cha-chuang</b> .  |
| 2½  | Route turns again S. and joins main road, which crosses to l. of railway and ½ mile farther again to r. of railway.                                  |
| 3½  | <b>Shih-li-p'u</b> , on l. Direction SSW.  |
| 5½  | <b>Tai-shan</b> , on r. Direction SE.; road continues to wind.   |
| 6½  | <b>Li-p'u</b> . Ranges of hills again draw nearer to road both on E. and W. Distance to foot of hills about 1½ miles.                                |
| 6¾  | <b>Chien-li-p'u</b> .  |
| 7¾  | <b>Hsin-chuang</b> .   |
| 8   | Road crosses to l. of railway.   |
| 9½  | <b>San-p'u</b> , RS. The station is about ½ mile SW. The road draws near the range of hills which border it on l.                                    |
| 12½ | <b>Chi-p'u</b> (?).  |
| 14  | <b>San-li-wan</b> . Low hill ½ mile away on r.   |
| 15½ | <b>T'ao-shan-p'u</b> , large village. Direction SW.  |
| 18  | Road crosses to r. of railway.   |
| 18½ | <b>Hu-hsing-chuang</b> . Road approaches range of hills on W. and passes between them and two isolated hills on E.                                   |
| 19½ | <b>Tsao-chêng</b> , on r. Road turns S.  |
| 20½ | Road crosses the Kiangsu-Anhwei boundary.  |
| 21  | Road crosses to l. of railway. <i>Ming-tse</i> tombs(?) on r.  |
| 21½ | <b>Tsao-ts'un</b> , RS. Temple to W. of railway station.   |

miles

- 22½ **Hu-pai** on l., large temple on r. of road. Direction SSW.
- 23½ Road approaches and follows railway line, crossing first to r. of it after  $\frac{3}{4}$  mile, and again to l.  $\frac{1}{2}$  mile farther on. Road and railway skirt foot-hills on r.
- 26 **Ch'ien-chuang** on the r., between road and railway.
- 28½ **Chia-kou**, RS. about 300 yds. to W. The village is situated on the road  $\frac{1}{4}$  mile farther on. Several villages to r. in the vicinity of the railway station.
- 29½ Road passes at foot of hill on l.
- 30½ **Ch'i-li-chao** (?). Hills close in on r.
- 31½ **Li-shan-p'u**.
- 32½ Road turns S. along foot of hills on l.
- 34½ **Chên-chu**.
- 35½ **Shih-san-chi**.
- 36½ **San-shan-chi**. Road crosses spur of hill extending from E.
- 37½ **Wang-to-chao**. Road bends SE.
- 38½ **Chou-chi-tsai**. Road bends S.
- 39½ Railway station (Fulitsi) 1 mile away on W. Road winds and approaches railway.
- 41 **Sha-wei**. Road crosses to r. of railway.
- 41½ **Fulitsi**, P. T. RS. Railway station  $1\frac{1}{2}$  to N.
- 43 **Ta-wang-chuang**, about 500 yds. away on l.
- 43½ **K'ai-hua-kou**.
- 44 **Shih-li-p'u**.
- 44½ **Hsü-cha**.
- 46½ **Lao-wan-yin**,  $\frac{1}{4}$  mile on l.
- 47½ **So-an-cha**.
- 48 **SUCHOW AN** (Nan-hsü-chou), P. T. RS., a walled city. Railway station  $\frac{1}{2}$  mile E. of city wall. Road enters N. Gate.
- Between Suchow An and Jên-ch'iao an alternative route, via Tatien An, P., can be followed. It is about 4 miles longer to the E. of the present route.
- 48½ Road leaves SE. corner of city. Direction E.

miles

- 49 Road crosses to l. of railway.
- 49 $\frac{1}{4}$  Road bends SE.
- 50 $\frac{1}{2}$  **Hai-cha.**
- 52 $\frac{3}{4}$  Railway 1 $\frac{3}{4}$  miles to r. of road.
- 57 $\frac{1}{2}$  **Wang-cha**<sup>1</sup>.
- 59 $\frac{1}{4}$  **Chung-cha** (?), village  $\frac{1}{4}$  mile on r. of road. **Hsi-shih-p'u** railway station is about 2 miles on r.
- 62 $\frac{1}{4}$  **Hsia-ti-chi** (?).
- 63 $\frac{1}{4}$  **Wang-cha**, village  $\frac{1}{4}$  mile on r. Temple to W. of village.
- 64 $\frac{1}{2}$  **Huo-chêng** (?).
- 65 Temple 600 yds. to r.
- 66 $\frac{1}{4}$  **Chu-cho** (?).
- 69 $\frac{1}{4}$  **Chang-cha** (?).
- 70 **Jên-ch'iao**, RS. Station 2 $\frac{1}{4}$  miles to W. of village.
- 70 $\frac{1}{2}$  **Tien-chao.**
- 73 $\frac{3}{4}$  **Sha-chao-tsê-hsu** (?).
- 74 $\frac{3}{4}$  **Wong-cho** (?), on l.
- 75 $\frac{1}{2}$  **Sung-cho** (?), on l.
- 76 $\frac{1}{2}$  **Li-shih-p'u**, on l.
- 77 $\frac{1}{4}$  **Wong-cha.**
- 80 **Kuchen An**, P. RS. Road enters NW. corner of town. Railway station  $\frac{1}{4}$  mile W.  
On leaving the town route crosses the Kuei Ho (20 ft. deep) by a ferry. Railway bridge about  $\frac{1}{4}$  mile to SW. The Kuei Ho runs SE. into the Huai River, and is navigable to some extent.
- 81 $\frac{1}{2}$  **Chien-tai.** Beyond the village road bifurcates. The l. branch is about 2 $\frac{1}{2}$  miles shorter and passes through Lien-ch'êng (11 miles from Kuchen An). The present route follows the r. branch.
- 82 $\frac{1}{2}$  **Tung-lo-wan** (?). Before reaching the village road crosses to r. of railway.

<sup>1</sup> According to the Railway Survey the name *Wang-cha* or *Wong-cha* (*Wong-cho*) occurs no less than four times within the next 20 miles. In this route the names of small villages are often uncertain.

- miles
- 84 **Ying-chia-an** (?).
- 86 $\frac{3}{4}$  **Yen-chia-hu**, village  $\frac{1}{2}$  mile to r.
- 88 $\frac{1}{4}$  **Ch'ien-chia** (Zen-chia) (?).
- 89 Route crosses the *Hsien Ho*, a shallow creek about  $\frac{1}{4}$  mile wide.
- 89 $\frac{1}{2}$  **Hsin-ch'iao**, RS. The station is about  $\frac{3}{4}$  mile ESE.
- 91 Railway passes to r. of road, skirting *Chu-chia-miao*, turns away S. to Pengpu, where it crosses the Huai River on an important bridge, and does not meet the road again until Linhwaikwan.
- 91 $\frac{1}{2}$  *Yang-cho-miao* (?).
- 93 $\frac{1}{2}$  **Sio-kuo-cho**, village  $\frac{1}{2}$  mile away on r.
- 99 $\frac{1}{4}$  The two roads from Chien-tai meet again.
- 101 **Wang-chuang**.
- 108 Village on l.
- 109 $\frac{1}{4}$  **San-p'u**.
- 111 Lagoon  $\frac{3}{4}$  mile on r.
- 112 $\frac{1}{2}$  **Ei-p'u** (?). Flood bank to r. of village.
- 113 $\frac{1}{4}$  Another lagoon  $\frac{1}{2}$  mile on r.
- 115 $\frac{1}{4}$  **Yo-chi-shan**. Road crosses a shallow creek running off the Huai Ho.
- Road from Tung-yeh-miao (1 mile) joins on l.
- 116 $\frac{1}{2}$  **LINHWAIKWAN**, P. T. RS., a town and likin station of some importance, on both banks of the Huai River. It is the port and railway station of **Fengyang**, P. T., and is in direct water communication with the Grand Canal (see Route 35).
- 116 $\frac{3}{4}$  N. bank of Huai River. The railway station is on the S. bank.



## ROUTE 35

LINHWAIKWAN (ANHWEI) TO TSINGKIANGPU (about  
150 miles)

*Authorities*: F. G. Turner, Oct. 1905; G. E. Pereira, Jan.-Feb. 1908; Map of the Rivers, Lakes, and Canals of N. Kiangsu and N. Anhui, Survey Students of N. Kiangsu, Oct. 1911; China, Marit. Customs, Trade Reports, 1914; China Year Book, 1914.

General direction NE. This water route is by the *Huai River* and the *Hung-tsê Hu*; the former is embanked part of the way and often in floods; the latter is a large shallow lake (average depth  $2\frac{1}{2}$  to  $3\frac{1}{2}$  ft.) intersected by narrow winding channels, which discover themselves in winter. It is shallowest in its western parts. The bottom is mud. The lake discharges into the *Grand Canal* mainly at Matowchen Ku, the surplus water flowing southwards into the lakes *Paoying* and *Kaoyu*. There are many fishing-boats on all these lakes.

Hills end at Lao-tzū-shan, running from this point S. The coast from this point is low-lying, and invisible from parts of the lake. In a severe winter the latter may freeze, January being the most likely month for this to occur. Wheelbarrows can then cross from Chiang-pa (Chiang-chia-pa) to Lao-tzū-shan.

There is a land route from Süyi to Tsingkiangpu via Chih-t'ou-ch'iao, Kao-ch'iao, Chiang-pa, Kao-chien, distance about 60 miles—no details available.

In summer, or when there is sufficient water, an alternative water route can be followed via Chiang-pa, the Paoying Lake, and the Kaoyu Lake, reaching the Grand Canal at Kaoyuchow, or 10 miles farther N. at Ma-p'êng-wan, or 3 miles farther N. still, at Liu-man-cha (see Route 19, sect. 1)—no details of these routes available.

Chairs, horses, coolies, or wheelbarrows can be hired at Süyi.

On January 30, 1914, the Chinese Government entered into

an agreement with the American Red Cross Society in virtue of which the latter is empowered to raise a loan of £4,000,000 for the purpose of undertaking conservancy work in the Huai River. It is therefore possible that the conditions of navigation along this route may be much improved. Even under present conditions boats of as much as 30 tons capacity, known as hsiao-fan-ch'uan, constantly do the journey to the Grand Canal. A regular service of steam-launches has been established between Linhwaikwan and Matowchen Ku by a Chinese company. These launches tow a number of boats, and usually call at Wuhohsien, Süyi, and Lao-tzū-shan.

This route comprises 2 sections.

(1) *Linhwaikwan to Süyi* (about 78½ miles)

Distances measured on the map.

miles (approx.)	
0	<b>LINHWAIKWAN</b> , P. T. RS., a town and likin station of some importance on both banks of the <i>Huai River</i> . Railway station on S. bank at W. end of town Direction NNE.
¾	<b>Yen-wang-miao</b> , on r. Embankments begin here on both sides of the river.
2½	<b>Yin-chia-wan</b> , on r.
3	<b>Lan-kao-kou</b> , on l.
3½	<b>Ho-shang-an</b> , on r. <b>Kuo-chia-yao</b> , on opposite bank.
4	<b>Huang-chia-wan</b> , on r. <b>Kuo-fu</b> , on opposite bank.
4¾	<b>San-ch'ê-kou</b> , on l.
5½	<b>Fei-chia-wei</b> , on l. Embankment ceases on r. bank.
6	<b>Chang-chia-wei</b> , on l. The river bends E.
6½	<b>Wu-chia-yao</b> , on r.
7	<b>Mao-t'an-tzū</b> , on l.
7½	<b>T'ang-chia-t'ai-tzū</b> , on l. <b>Liu-kou-t'ung-hou-ho</b> , on opposite bank. Embankment on r. bank begins again.
8	<b>Chuang-chia-t'ai-tzū</b> , on l. River bends NE.
8½	Embankment ceases on r. bank for ¾ mile.
9	<b>Lao-kuan-chi</b> , on r. Embankment on r. bank begins again.

miles  
(approx.)

- 9 $\frac{1}{4}$  **Chang-chia-wan**, on r.
- 11 $\frac{1}{4}$  **Chang-chia-kou**, on l. **Chü-chia-wan**, on opposite bank. River bends sharply SE.
- 11 $\frac{1}{2}$  **Chang-chia-chuang**, on l.
- 13 $\frac{1}{2}$  Embankment ends here on both sides of river ; the latter bends ENE.
- 14 $\frac{1}{4}$  **An-t'ing**, on l.
- 15 **Lan-chi**, on l. **Tsao-hsiang-chi**, on opposite bank.
- 15 $\frac{1}{2}$  Sandy deposit in middle of river,  $\frac{3}{4}$  mile long, under water at flood-time.
- 16 $\frac{1}{4}$  **Wang-chia-ying**, on r.
- 16 $\frac{3}{4}$  **Huang-chia-tsui**, on r.
- 19 $\frac{1}{4}$  **Hsiao-ch'i-chi**, on r. at the mouth of a wide creek. River bends N.
- 21 **Shih-chia-lao-shan**, on r. Embankments begin again on both sides.
- 21 $\frac{1}{2}$  **Hsia-miao-tzŭ**, on r.
- 23 **Liang-ho-pa**, on l. Embankment ends on l.
- 23 $\frac{3}{4}$  **Wai-ho-k'ou**, on r. Embankment ends on r.
- 24 **Wang-t'ai-tzŭ**, on r.
- 25 **Fêng-lai-chieh**, at the mouth of the *Kuei Ho* and the *Chung Ho* (T'ung Ho ?).  
**Wuhohsien**, P. The city is some distance on l. between the two rivers.
- 26 River bends E. and enters low-lying and marshy ground.
- 29 River bends NE.
- 30 $\frac{1}{2}$  River bends SE.
- 33 River bends ENE.
- 36 **Fou-shan**. River divides into two main branches which finally meet again at mile 64. They enclose a large island (*Ta-liu-hang*) of swampy ground intersected at intervals by cross creeks which connect the two main branches. The present route follows the N. branch. Direction N.
- 41 $\frac{1}{2}$  Small island,  $\frac{3}{4}$  mile long, in middle of channel.

miles  
(approx.)

- Fêng-shan**, on l.
- 43 Direction W. Side branches continue N., forming various large islands.
- 44 **Hsi-fên-shan**, on l. at end of side-creek.
- 44½ **Shuang-kou**, on l. Cross creek joins in on r.
- 45½ **Tung-fên-shan**, on l.
- 48½ River bends S. **Chi-chia-tsui**, 1 mile away NE.
- 52 River about 1 mile broad.
- 53½ A cross creek joins in on r. coming from **Wu-kou** 4 miles away SW. **T'ang-chuang-tsui** is about 2 miles E.
- 55 **Miao-wan**, on l. Channel now over 3 miles broad.
- 59 *Tung-yüeh-miao*, a temple, 3¼ miles SW. near the mouth of the Ch'ih Ho, on the S. branch of the Huai River (see Route 37 A, mile 64½).
- 60 Sand-banks and shallows along N. bank extend as far as Hung-tsê Lake. **San-ch'ên-hu** 3 miles SW.
- 62 *Hua-yüan-tsui*, a small island on l. On the r. a double channel runs in from **Chiu-hsien**.
- 62½ *Pi-min-shan*, a small island on l.
- 64 S. branch of the Huai River after widening into a lake (*Mao-êrh Hu*) meets again N. branch.
- 65 Small promontory on r. Navigable channel along S. bank which forms a succession of bays and small lakes.
- 68 **San-kuan-miao**, on r. River some 5 or 6 miles wide.
- 69½ **Ta-shih-shan**, on r. *Huang-kang* and *Wa-yao-kang*, a large island, on l. **Ch'ên-tsui**, village beyond the island on opposite bank of the river.
- 71½ *Hua-yen-an*, temple on r.
- 72½ Promontory on r. **T'ai-p'ing-chi**, on opposite bank, 6 miles NW.
- 75 *Ch'ing-shui-pa*, on r. at the mouth of a creek.
- 77½ **Pao-chi-shan**, on r.
- 78½ **Süyi**, on r.

From Süyi a land route goes SE. via Tienchang ( $43\frac{1}{2}$  miles) to Yangchow ( $85\frac{1}{2}$  miles). Another route goes SSE. to Luho (about 52 miles).

(2) *Süyi to Tsingkiangpu* (about  $71\frac{1}{2}$  miles)

miles

78 $\frac{1}{2}$

**Süyi.** Route is from inner harbour, NNE. for first  $9\frac{1}{2}$  miles, and from 100 yds. to  $\frac{3}{4}$  mile from the r. bank. *Huai River*, about 3 miles wide, with low-lying bank on l. and bordered by bare grassy hills, 50 to 100 ft. high, on r. bank. Channel broken up by low-lying islands. River 10 ft. deep at starting, within 100 yds. of r. bank.

79 $\frac{1}{4}$

Low narrow island with reeds and some young willows, 300 yds. from r. bank. Route is to E. of island.

79 $\frac{3}{4}$

A temple on hill to r.

80 $\frac{1}{4}$

First island ends, and another about 1,000 yds. from r. bank begins. At 20 yds. from r. bank depth of river 12 ft., decreasing to 4 or 5 ft. farther out.

80 $\frac{3}{4}$

**San-chan-tzü** (4 houses), between hills on r. River 11 ft. deep 30 yds. from r. bank.

82

Hill ends. Marshy on r.

82 $\frac{1}{2}$

**Ssü-shan-tzü** (25 houses), 200 yds. from r. bank. River opposite it 4 to 6 ft. deep.

83 $\frac{1}{4}$

Hills again gradually approach r. bank.

84 $\frac{1}{2}$

**Pa-wang-ch'êng** (20 houses), with small temple on 100-ft. hill above it.

85

River 6 ft. deep 200 yds. from r. bank, which recedes, forming a bay.

86 $\frac{1}{2}$

Island to l. ( $\frac{3}{4}$  mile distant, and  $1\frac{1}{2}$  miles from r. bank) ends. River here 2 to  $2\frac{1}{2}$  ft. deep.

88

**Kuei-shan-tzü**, a temple on side of 100-ft. hill forming a promontory on r. bank. Here the Hung-tsê Lake really begins. The last villages visible on l. are about 4 miles distant, whilst the low-lying banks

miles

recede to the NNW. for another 2 or 3 miles and then apparently end. Bare grass hills, 50 to 100 ft., continue near E. coast, with small villages at intervals.

88½ **Hui-kou-tzū**, 50 houses, in a small bay.

89 Temple near E. shore.

90 Water 3½ ft. deep 200 yds. from shore.

95 Water 2 ft. 1 in. deep ¾ mile from E. shore.

98 Water 2 ft. 1 in. deep ¾ mile from E. shore.

99 **Lao-tzū-shan**. Hill, 50 ft. high, at end of small promontory, with village of 270 houses and a good harbour against the prevailing NE. wind. It is in Kiangsu province, the Anhwei boundary being 2 miles to the S. There is a conspicuous temple at the end of the promontory.

The only place visible on the N. coast of the lake is **Shang-yi-tsui**, said to be 10 miles distant, and nearly due north of Lao-tzū-shan. The *Ch'êng-tzū River* is said to flow into the lake to the E. of it. The only place visible on the W. is **Liu-chia-tsui** to the WSW. Between it and Shang-yi-tsui the lake recedes to NW.; this part being called the *Li Ho*, probably because a river of that name flows into it. A road leads from Lao-tzū-shan to Chiang-pa. It is said to go via Ch'i-chia-wa, 10 li; Ma-lang-kang, 20 li; Yü-chia-ma-t'ou (no houses), 30 li; Chiang-pa, 50 li or about 16½ miles.

NNW. from Lao-tzū-shan the promontory is surrounded by 50-ft. cliffs, with the village principally on lower ground, which even in floods is not submerged. Rounding the promontory, the direction is due E. towards Chou-ch'iao on the E. side of the lake. At first the land recedes to SSE. for about 1½ to 2 miles, and then runs ENE. to Ma-kang-tsui. Slightly rising ground, probably an embankment, along coast up to Ma-kang-tsui, with some small villages near coast.

101¼ **Chang-chia-tsui** (10 houses).

miles

103

**Ma-kang-tsui** (four or five houses), at end of promontory. Direction of coast-line SSE. Lake forms great bay, approximately 13 miles long and 11 wide, to Chou-ch'iao on the E. coast. Chiang-pa, where one or more of the dams open into the Kao-yu lake, is reported to be at the southern end of this bay, the western side of which is bare of villages and trees. They begin again from southern end of bay and continue round eastern side of lake. Shore, low-lying. Water everywhere shallow; 3 ft. 5 in. deep near Ma-kang-tsui, 3 ft. 11 in. and 3 ft. 10 in. half-way across bay; and in many places only 2 ft. 11 in. or 3 ft. 1 in. Bottom muddy.

114

**Chou-ch'iao**, village at the mouth of the *Ts'ao-tzŭ Ho*, on E. coast, with a temple (*Huang-kang-ssŭ*) to the S. of it, about  $3\frac{1}{2}$  miles distant.

Here the lake shore bends eastwards for a short way to **Ch'u-chia-wan-tzŭ** and then turns N. to **Kao-chang-chien**. The great embankment, said to extend 60 li (20 miles) along the eastern side of the lake, from Kao-liang-chien to Chiang-pa, is visible from Ch'u-chia-wan-tzŭ northwards. It is about 19 ft. high on the land side, and faced with cut stone in from 15 to 17 rows, each stone  $14\frac{1}{2}$  in. thick. It is almost the same height above the low-lying, thickly populated country to the E., with sloping earth bank down to the level of it. It is 51 yds. wide at top, with roadway 11 yds. wide along the outer edge, and raised 6 ft. Used by wheelbarrows.

120 $\frac{1}{4}$ 

**Kao-liang-chien** (pronounced locally Kao-ling-kan). Village of 150 huts, mostly on raised circular embankment surrounding an inner harbour about 200 yds. in diameter and only deep enough for small boats. It is approximately 60 li (20 miles) distant from Lao-tzŭ-shan; the same from Chiang-pa to the S.; 20 li from Chou-ch'iao; and 75 li by road or 90 by river

miles

to Tsingkiangpu. Larger boats in the winter time lie about  $\frac{1}{2}$  mile out from the inner harbour. There is little or no water within 200 yds. of the embankment; only a channel running into the inner harbour. Level of the country to E., which is thickly covered with villages, appears to be about the same as that of the lake. Leaving the anchorage off Kao-liang-chien, the lake on the E. becomes a mere belt of mud, 300 to 500 yds. wide, with embankment beyond. Channel distant some 400 to 600 yds. from embankment.

121 Channel between mud-banks, probably the old bed of the Huai River converted into a canal. It is 30 yds. wide, and is the chief outlet for carrying off the water of the Hung-tsê Lake to the Grand Canal.

122 $\frac{1}{4}$  Channel 3 and 3 $\frac{1}{2}$  ft. deep, between banks 2 ft. 6 in. above level of water, covered with reeds. Towing possible from this point, chiefly on r. bank.

123 A place for disembarking on to the embankment.

123 $\frac{1}{2}$  The number of rows of stone in the embankment decrease from this point from 13 or 14 to 8 or 9 opposite Shun-ho-chi. It is for the most part in good preservation. On E. of embankment, ground marshy for 400 or 500 yds., then thickly covered with villages among trees, with an occasional canal running E. and W. The embankment itself might serve for the construction of a light railway. There is as a rule a way up it at villages.

123 $\frac{3}{4}$  Canal 2 ft. 5 in. deep.

124 $\frac{1}{4}$  **Shih-wu-li-p'u**, 70 huts; a few on embankment, but most to E. of it. Canal 3 ft. 6 in. deep.

125 $\frac{1}{2}$  Cultivation begins on both banks, and their height above the water gradually increases up to 8 to 10 ft. off Shun-ho-chi.

126 $\frac{1}{2}$  Canal 3 ft. deep.

127 **Lao-tui-t'u** (pronounced locally Lao-ti-t'u), 40 huts on embankment.



miles

- 128 $\frac{1}{4}$  **Shun-ho-chi**, 150 houses and huts on l. bank of canal, here 3 ft. 6 in. deep, and known as the *Shun Ho*. In the floods the Hung-tsê Lake extends up to Shun-ho-chi. Between Shun-ho-chi and Matowchen Ku there are plenty of places where access can be had to the embankment from below. On the top it is covered with grass, and would afford an excellent camping-ground along each side of the raised roadway. Occasionally clumps or single trees and a few huts are to be seen. The marshy belt, about 500 yds. wide, continues on the r., with many villages beyond it. Country about 15 ft. above river-level. Shun Ho at first about 300 yds. to l., with many villages beyond.
- 129 $\frac{1}{2}$  River here leaves embankment, and remains about 1 mile distant from it at first. To l. of latter is a broad belt of cultivation, with villages beyond it.
- 132 $\frac{3}{4}$  **Kao-chia-yen** (80 houses), is chiefly to E. of embankment, and reached by a causeway and bridge. Conspicuous Kuan-ti temple on embankment. Shun Ho approximately 3 li (1 mile) to E.
- 137 $\frac{3}{4}$  **Wu-tun** (45 houses). Here embankment makes a bend NW., bearing 324° to Chiu-kêng-t'ou.
- 138 $\frac{3}{4}$  **T'ao-p'u** (6 huts). Stone facing on l. side of embankment now ends. Latter now about 30 yds. wide, with sloping banks. Small overflow canal, 10 ft. wide, 200 or 300 yds. to l. Embankments to guard against overflow to r.
- 140 $\frac{1}{4}$  **Chiu-kêng-t'ou** (60 houses). Route leaves embankment, which runs on 200 or 300 yds. and then follows along r. bank of Shun Ho.
- 141 Route along embankment on r. bank of Grand Canal, following it up-stream.
- 142 **Matowchen Ku**. About 200 houses on either side of Grand Canal, chiefly on l. bank. To W. of it the Shun Ho flows into the Grand Canal. The Shun Ho

miles

is 3 ft. 6 in. deep from Shun-ho-chi to Shêng-chia-chi, some  $3\frac{1}{2}$  miles above Matowchen Ku, and thence 3 ft. deep up to its junction with the Grand Canal, where its course is between high banks. Grand Canal, below Matowchen Ku, about 5 ft. deep.

143½ About  $1\frac{1}{2}$  miles below Matowchen Ku it passes under a lock bridge, and shortly after under two others : see Route 19, sect. 2.

149 **TSINGKIANGPU**, P. T. RS. (see *Gazetteer*), on the north bank of Grand Canal ; originally a suburb of the old city of **Tsingho**, situated on the south bank. There are two bridges of boats and a lock bridge to pass.

150 Jetty for steam-launches below the stone-lock bridge.

## ROUTE 36

### YANGCHOW TO PUKOW KU

*Authorities* : French Map, 1901 ; War Office MS. maps ; Admiralty Chart No. 2809, Dec. 1914.

General direction WSW. This route connects the Grand Canal with the terminus of the Tientsin-Pukow Railway, opposite Nanking. The project to build a railway from Pukow Ku to Yangchow has again been revived, but is not likely to mature in the near future. The line, if constructed, would cross the Grand Canal near Kwachow. Other railway schemes to connect Icheng and Shihherhwei with Taichow Ku have also been considered (see Chap. IX, railways Nos. XVI and XVII). The following alternative routes are available :

#### (A) WATER ROUTE (about $57\frac{1}{2}$ miles)

By steam-launch along the Grand Canal to Kwachow and thence by steamer up the Yangtse River.

miles  
(approx.)

- 0      **YANGCHOW, P. T.** (see *Gazetteer*). The route is from the steam-launch jetties outside the *Ch'ao-kuan Gate*, near the SE. corner of city wall.
- 1¼      *South Gate*. Canal turns S. away from city wall through a long suburb.  
(For details see Route 19, sect. 1.)
- 12¼      *Mouth of Grand Canal*. Direction W.  
(For navigation on the Yangtse River see *Yangtse Kiang Pilot*.)
- 57½      **PUKOW KU, P. T. RS.** Jetties of the railway steam-ferries.

(B) LAND ROUTE (about 61½ miles)

No details available. Distances, measured on War Office map, only approximate.

miles  
(approx.)

- 0      **YANGCHOW, P. T.**  
Route leaves by the W. Gate and continues along the wall to the NW. corner of city. From here route turns W.
- 1½      **Shang-chiao.**
- 2¼      **Ch'i-li-tien.** Three roads meet here. The present route turns SW. Some hills to the W.
- 3½      **Wêng-wu-miao.**
- 7¼      **Yüeh-lai.**
- 8¼      **T'ang-ho-ch'iao.** Route bends W.
- 10½      **T'ung-shun-chi.**
- 12      **Lung-ho-chi,** ½ mile on r. Route crosses (by a bridge) a creek running S. to Icheng.  
Direction SW. A road continues W. to Shih-êrh-ch'a.
- 13      Roads branch off to r. and l.
- 18½      **Icheng,** a walled town. Route enters by the N. Gate. A creek leads to the Yangtse River, 1½ miles away to S. Custom-house at mouth of creek. Another creek

miles (approx.)	
	(the <i>San-ch'a Ho</i> ) connects the town with the Grand Canal (see Route 19, sect. 1, mile 10 $\frac{1}{4}$ ).
	Route leaves town by the W. Gate. Direction WNW.
21 $\frac{1}{2}$	Route crosses (by a bridge) the <i>Hsin Ho</i> , a creek flowing S. into the Yangtse River.
22	Route branches off to NW.
25 $\frac{1}{2}$	<b>Erh-shih-li-p'u.</b>
27 $\frac{3}{4}$	<b>San-shih-li-p'u.</b> Road to r. leads to T'ai-p'ing-chi.
29 $\frac{3}{4}$	<b>Ch'ên-p'u-ch'iao.</b>
32	<b>Hou-tzŭ-p'u.</b>
34 $\frac{1}{2}$	<b>Mêng-tien.</b>
38	<b>Lin-ch'iao-p'u.</b>
38 $\frac{3}{4}$	Route crosses a branch of the <i>Wang-chia Ho</i> , a creek flowing S. into the Yangtse River.
40	<b>Luhö, P.</b> The main branch of the Wang-chia Ho passes through the town, and is crossed by the present route. Direction SSW. Another road to NNW. goes to Süyi (about 52 miles) on the Hung-tsê Lake.
44	Road bends SW.
47 $\frac{3}{4}$	<b>Pei-t'ou-ch'iao.</b>
48 $\frac{1}{2}$	<b>Kê-t'ang-chi.</b> Route bends SSW.
52	<b>P'an-ch'ên-chi.</b> Road turns W. and winds.
55 $\frac{1}{2}$	<b>Ch'ên-chiao-chuang-shih.</b> Direction SSE. A road to r. leads to Hsiao-tien skirting the range of hills which runs parallel with the Yangtse River. The present route turns the E. extremity of the range.
57 $\frac{3}{4}$	<b>PUKOW KU, P. T. RS.</b> The old city (usually known as P'u-chên) is reached by crossing the <i>Ta Ho</i> , a navigable creek running into the Yangtse. The present route continues along the E. bank of the <i>Ta Ho</i> . For details see Route 37, mile 3 $\frac{1}{4}$ .
61	N. bank of Yangtse River, opposite railway wharf.

(C) WATER AND LAND ROUTE (61 $\frac{1}{2}$  miles)

An alternative water route to Icheng is along the Grand Canal to San-ch'a-ho and thence by the creek of the same

name to Icheng. Beyond the latter town Route 36 B must be followed.

miles (approx.)	
0	<b>YANGCHOW</b> , P. T. From the <i>Ch'ao-kuan</i> Gate, along the <i>Grand Canal</i> . Direction S.
4	<b>San-ch'a-ho</b> and <b>Yang-tzü-ch'iao</b> , villages on both banks of Grand Canal (about 150 houses). Route leaves Grand Canal by the <i>San-ch'a Ho</i> , a creek going W.
5½	Creek bends SSW.
12½	<b>Liang-chia-wan</b> .
14¾	<b>Hsin-ch'êng</b> , on r. A creek branches off to Shihherhwei, an important government salt dépôt, 4½ miles to S., on the Yangtse River.
17	<b>Icheng</b> . Near E. Gate creek connects with moat of the town. From this point the route is by land.
19	<i>West Gate</i> For details see Route 36 B.
61½	<b>PUKOW KU</b> , P. T. RS. Route ends on N. bank of Yangtse, opposite railway wharf.

## ROUTE 37

### PUKOW KU TO LINHWAIKWAN (ANHWEI)

*Authorities* : French Map, 1901 ; Harnam Singh, Nov. 1905 ; Official Survey of Tientsin-Pukow Railway, 1908.

General direction NW. The most convenient route is by the *Tientsin-Pukow Railway*. Distance by rail, 91 miles from Pukow City, 93½ miles from wharf on Yangtse River. (For details see Chap. IX, railway No. VI.)

There are alternative land routes.

## (A) VIA SANKIEH (98 miles)

The road followed by this route runs within a short distance of the railway all the way to Linhwaikwan. It is somewhat longer than alternative Route B and leaves the Nanking-Peking main road at Chuchow An.

Except for the first  $19\frac{1}{4}$  miles this route lies entirely in the Province of Anhwei.

miles

0

**PUKOW KU**, P. T. RS. Starting from the N. bank of the Yangtse, opposite the railway wharf, the route proceeds in a westerly direction along N. side of a creek (generally known as the *Ta Ho*), which it follows at varying distances up to mile 40. At high water the creek is navigable from Chuchow An to the Yangtse.

$1\frac{1}{4}$

Road bends N. away from creek and winds to

$3\frac{1}{4}$

Pukow City (usually known as P'u-chên), which it touches at NE. corner after crossing the Ta Ho.

Road passes through a gap in a range of hills which runs nearly parallel to the course of the Yangtse. It follows the W. side of the Ta Ho for  $1\frac{1}{2}$  miles, then passes along foot of hill at a short distance from the railway.

$5\frac{3}{4}$

Village. Hills to r. recede ; route follows hills on l. up to mile 13.

$7\frac{3}{4}$

**Hua-chi-ying**, RS. Road crosses to l. of railway.

$8\frac{3}{4}$

**An-tung-ch'iao**. Here the road passes over a small stream by a single-arch stone bridge. The road is now 6 ft. wide, and is on a bank 3 to 4 ft. high. The road continues W.

$10\frac{1}{2}$

**Chi-pa-ying**. Route crosses a tributary of the Ta Ho.

$11\frac{1}{2}$

**Hung-chao**.

13

Route crosses a branch of the Ta Ho by a good bridge of five-span stone arches. Length 50 yds. Water 60 ft. wide. The road now turns NW., and after 1 mile crosses another branch of the Ta Ho by a wooden bridge.

miles

- 14½ **Tung-ko**, R.S., straggling village about  $\frac{3}{4}$  mile long. To the N. of the road is wet low-lying country under rice cultivation, through which the railway passes on a high embankment (station  $1\frac{1}{4}$  miles to NW.). To the S. is the river about 1 mile distant, and beyond the river are the low hills referred to above.
- 16 Railway station  $\frac{1}{2}$  mile away on r. of road.
- 17½ **Sikoh**, P., last village in the province of Kiangsu.
- 19½ Route crosses the Kiangsu-Anhwei boundary.
- 22½ **Wuyi An**, P. T. R.S., a market town on the Ta Ho (here called Wuyi Ho). 68 boats of different sizes were seen here (1905). At that date there were 1,100 families and 140 shops. Since then the town has grown considerably, and when the railway to Sinyangchow (now under construction) is completed it will become an important junction.
- 25 Road crosses to r. of railway near railway station.
- 25½ Road crosses to l. of railway.
- 27 **Tan-tzŭ-chieh**.
- 30½ **Ou-chi-yen-fêng**.
- 32½ Village.
- 33½ Large village.
- CHUCHOW AN**, P. T. R.S., city of some 5,200 families. City wall more than 3 miles in extent, provided with 6 gates. An English and American mission have stations here. Railway station close to NE. corner of city. Drinking water is obtained from a stream which runs through the city and flows into the Ta Ho near the railway station. In the city the stream is crossed by a bridge of 3 arches; its total length is 50 yds. The water is from 20 to 30 ft. wide, and from 1 to 6 ft. deep. At high water the Ta Ho is navigable all the way to Pukow Ku. There is a range of hills (*Fêng Shan* and *Kuan Shan*) to SW. of city.
- The main road from Nanking to Peking followed up to here continues W. along the foot of these hills

miles

(see alternative Route 37 B). The present route leaves by the N. gate. General direction NNW.

34½ Road crosses to r. of railway. Just before reaching the railway a road branches off in a NNE. direction to Pa-li-miao, situated on the opposite side of the Ta Ho.

37½ Village. Road quite close to railway.

40 Road crosses to l. of railway.

42 Route passes at foot of hill (*Peh-mi Shan*) on l., and crosses a tributary of the Ta Ho. Railway bridge about ½ mile E.

42½ **Shahotsi**, P. RS. The station is ¼ mile E. of village.

43½ Road crosses to r. of railway, passes a village, and recrosses to l. of railway.

43¾ Route crosses a branch of the Ta Ho. Railway bridge ¼ mile E.

44¾ Road crosses to r. of railway and passes some villages.

47¾ Route crosses another branch of the Ta Ho. Railway bridge about ¼ mile to the W.; beyond which are two isolated hills (*Liang-chia Shan* and *Hsiao-tu Shan*).

48½ **Changpalin**, P. RS. Station ¼ mile W. of village.

51 Small village.

54¾ Route crosses a small creek, and a wider branch of the same creek ¾ mile beyond.

57½ **Sankieh**, P. RS. Just before entering the town route crosses two small creeks. Railway station 2¼ miles SW.

58 Route leaves N. end of town.

59 Route crosses a creek.

60¾ Route crosses a wide creek.

61½ Village. A small creek is crossed before reaching the village.

64½ **Kwantien An**, P. RS. Road crosses to l. of railway just N. of the station. The village is on the E. bank



miles

of *Ch'ih Ho*, a creek about  $\frac{1}{4}$  mile wide at this point.  
Route crosses the creek.

65 $\frac{1}{4}$  A few houses on l.

67 Small hill on r.

68 $\frac{1}{4}$  **Ta-hsiao-chia-tang.**

69 Route crosses *Ch'ih Ho* again.

69 $\frac{3}{4}$  Village.

72 **Chao-chia-tang.** Road again close to *Ch'ih Ho* on l.

74 Road crosses to r. of railway.

74 $\frac{1}{4}$  **Mingkwang, P. RS.** Station at NW. corner of town. On leaving the town the road crosses again to l. of railway and passes close to the station.

75 $\frac{3}{4}$  Route crosses the *Ch'ih Ho* again. Railway bridge  $\frac{1}{4}$  mile N. Beyond the creek road crosses to r. of railway.

78 $\frac{1}{4}$  Route, alongside of railway for about  $\frac{1}{2}$  mile, crosses small tributary of the *Ch'ih Ho*. The latter continues in a northerly direction, and joins the *Huai River* at the SW. corner of *Hung-tsê Lake* (see Route 35, mile 59).

79 $\frac{1}{2}$  Road and railway recross small creek, and gradually enter rising country.

79 $\frac{3}{4}$  Village on l.

82 $\frac{1}{4}$  Village on l.

83 $\frac{3}{4}$  Road passes along the foot and crosses spur of *Hsi-mên Shan*, a high hill to E.

87 **Siaokiho** (*Chi-ho*), P. RS., a large village entered after crossing a creek. The railway station is 2 $\frac{3}{4}$  miles WSW. of town. General direction W.

93 $\frac{1}{2}$  **Pan-chao.** Route rejoins the Nanking-Peking main road (see Route 37 B). Beyond the village route crosses a creek running in a northerly direction to the *Huai Ho*.

96 **Lin-chia-ying** (?). After leaving the village road passes through an ancient camp.

miles

97 $\frac{3}{4}$ 

**LINEHWAIKWAN**, P. T. RS., a town and likin station of some importance, on both banks of the *Huai River*. It is the port and railway station of **Fengyang**, P. T., and is in direct water-communication with the Grand Canal (see Route 35).

98

South bank of *Huai River*. Railway station on same bank  $\frac{3}{4}$  mile W.

## (B) VIA CHIH HO (about 97 miles)

This route follows the Nanking-Peking main road all the way. It is practically the same length as Route A, but lies almost entirely through flat country. It avoids the hilly district crossed in last stages of Route A, but is more liable to be rendered impracticable through floods.

As in the case of Route 37 A the road is generally in bad repair.

No details beyond mile 37 $\frac{1}{2}$  were available for this route. The distances, measured on French map, are only approximate.

As far as Chuchow An the route is identical with Route A.

miles

0

**PUKOW KU**. Route starts from N. bank of Yangtse opposite railway wharf.

For description up to mile 33 $\frac{1}{4}$  see Route 37 A.

33 $\frac{1}{4}$ 

**CHUCHOW AN**, P. T. RS.

34 $\frac{1}{4}$ 

Route leaves city by W. gate and follows in a westerly direction along the foot of *Fêng Shan*, a range of hills to W. of city.

35 $\frac{1}{2}$ 

Route crosses the creek which flows through Chuchow An.

37 $\frac{1}{2}$ 

Route crosses the creek once more and passes over the *Kuan Shan*, a range of hills running in continuation of the *Fêng Shan*.

40 $\frac{3}{4}$ 

**Kuan-shan**.

45 $\frac{1}{4}$ 

**Chulungkiao**, P.

miles	
47 $\frac{1}{4}$	<b>Kwangwuwei, P.</b>
50 $\frac{1}{4}$	<b>Ta-liu-shan.</b>
54 $\frac{1}{4}$	<b>Mo-p'an-ling.</b>
59 $\frac{3}{4}$	<b>Taishanpu, P.</b>
63	<b>Chihho, P.</b> Route crosses the <i>Ch'ih Ho</i> , a river which runs northwards into the Hung-tsê Hu (see Route 37 A, mile 78 $\frac{1}{4}$ ).
66	<b>Liu-chia.</b>
70	<b>Chungkiapu, P.</b>
73 $\frac{1}{2}$	<b>Huang-lien-p'u.</b>
77	<b>Hungsintsi, P.</b>
79 $\frac{1}{2}$	<b>Chang-chia-p'u.</b>
82 $\frac{1}{2}$	<b>Huang-ni-p'u.</b> Direction N.
84 $\frac{1}{2}$	<b>Sang-chiang.</b>
87 $\frac{1}{2}$	<b>Tsung-p'u.</b>
92 $\frac{1}{2}$	<b>Pan-chao.</b> Route A is rejoined here. For details see Route 37 A, mile 93 $\frac{1}{2}$ .
97	<b>LINHWAIKWAN, P. T. RS.</b> Route ends on S. bank of <i>Huai River</i> .

## ROUTE 38

PUKOW KU TO LÜCHOWFU (ANHWEI) (109 $\frac{1}{4}$  miles)

*Authority:* Harnam Singh, Nov. 1905.

General direction W. This is an important route leading from Pukow Ku on the *Yangtse River*, opposite the capital city of Nanking. As Lüchowfu is a city of strategical value this route might form the main line of advance for an army operating towards Hankow. The road varies much in width and condition, in some places being only 6 ft. wide on a bank, while in others spreading out to 20 ft. In its present condition the only form of wheeled traffic which could be used is barrows, but it might be quickly improved so as to take field

artillery. Good water is to be found the whole way. The country is thickly populated. The chief crop is rice. Where rice cultivation exists the action of mounted branches would be much restricted, but in the hilly tracts there is greater freedom of movement. The country round Pukow Ku is hilly and affords opportunities for defensive positions.

For the first  $17\frac{1}{4}$  miles the route lies along the main road to Linhwaikwan (see Route 37 A). Up to that point it is in proximity of the Tientsin-Pukow Ry. line and lies within the province of Kiangsu, beyond that point it passes into the province of Anhwei. The alignment of the Pukow-Sinyangchow Railway, now under construction, is almost identical with the present route all the way to Lüchowfu (see Chap. IX, railway No. IX).

miles

- |                  |   |
|------------------|---|
| 0                | <b>PUKOW KU</b> , P. T. RS. (see <i>Gazetteer</i> ).<br>Route starts from N. bank of Yangtse, opposite railway wharf.   |
| 17 $\frac{1}{4}$ | For details up to mile $17\frac{1}{4}$ see Route 37 A.<br><b>Sikoh</b> , P., village of some 20 to 30 houses.<br>Route turns SW. and enters province of Anhwei.<br>Main road continues NW. to Linhwaikwan (see Route 37).   |
| 18 $\frac{3}{4}$ | Embankment, about 400 yards to the S., runs parallel to the road for about $1\frac{1}{2}$ miles, and gives excellent command. To the N. the country is flat. To the S. hills are visible. Small bridges over irrigation channels at miles $24\frac{3}{4}$ , $25\frac{1}{4}$ , $27\frac{3}{4}$ , and $30\frac{3}{4}$ . At mile $16\frac{3}{4}$ is a wooden bridge over a muddy tributary of the river, and another $3\frac{1}{2}$ miles farther. The latter consists of three spans, stone arches. |
| 35 $\frac{3}{4}$ | <b>Chüantsiao</b> , P., a district town situated on the S. or r. bank of the <i>Ta Ho</i> . Leaving this place the road follows the r. bank of the stream.  |
| 39 $\frac{1}{4}$ | <b>Chang-lung-kang</b> , a mud-walled village, near which there is a stone-arch bridge. Crossing the bridge the road continues W., and, after a mile, strikes the r.  |

miles

bank of another stream, which later joins the Ta Ho. The water of this is 10 or 12 ft. wide, and good for drinking.

41½ **Pai-chiu-kang**, village of some 20 houses. The road continues thence in a westerly direction.

47¾ **Siaotsi An**, P., large village. General direction WNW. At mile 52½ the *Sha Ho* is crossed by ferry. This river flows from the hills, which are 16 miles distant to the S. Bed, 50 yds. wide; water, 10 ft. width; depth, 1 ft. 5 in. Fordable. Stone and sand bottom.

60¼ **Tashukai**, P., village of 50 houses. General direction W. by S.

63¼ 30 houses. Route crosses dry bed.

64¾ **Chang-fei-chi**. Road crosses stream from hills by a stone-slab bridge. Good drinking-water.

70¼ **Lan-kan-chi** (? Nan-kang-chi), village of about 40 houses. As far as mile 85, rocky hills, 1,500 to 2,000 ft., 8 to 10 miles S.

Direction the same. Across low, grass-covered, undulating hills, with easy slopes.

78 **Wên-chia-chi**. Rice-fields. Standing water and reeds.

84¼ **Shih-t'ang-ch'iao** (70 houses). Direction W. by S.

87¼ Stream from hills, 3 to 12 ft. wide, 2 to 3 ft. deep. Sandy bottom, crossed by slab bridge.

91¾ **Chiang-chun-tien**, small village.

97¼ **Tienfow** (Tien-pu). P. Important mart at cross-roads from Chaohsien and Fengyang.

109¼ **LÜCHOWFU**, P. T. Large and important city.

## ROUTE 39

## PUKOW KU TO HOCHOW AN (ANHWEI)

(about 36 miles)

*Authorities* : French Map, 1901 ; War Office MS. maps of N. Kiangsu ;  
Admiralty Chart 2678, Feb. 1915.

General direction SW. No details available. Distances approximate only, measured on the map.

miles  
(approx.)

0

**PUKOW KU, P. T. RS.** (see *Gazetteer*).

Route starts from the old city (known as P'u-chên).  
Direction SSW., along main road.

6

**Kiangpu, P.**, an ancient walled city now partly in ruins. A creek leads to the Yangtse at Chiang-wei.  
Route enters city by E. Gate.

Main road to Linhwaikwan turns off NW. (see Route 37).

7½

Route leaves by W. Gate. Road forks.

Route follows r. fork skirting hills on r.

10½

**Wu-li-ch'iao.**

11¾

**Kao-wang-chên.** Branches of road join again.

19

**Shih-chi-shih.** Several roads meet here. Route continues SW.

22½

**Ch'i-li-ching.**

26½

**Lin-pu-yü.**

27½

Route enters province of *Anhwei*.

(?)

**Wukiang An, P.**

29

**Shih-pa-ho.**

36

**HOCHOW AN, P.** A canal connects with the Yangtse River.

## ROUTE 40

## SÜCHOWFU TO KAIFENG (HONAN)

(about 217 miles)

*Authorities*: W. Lewisohn, 1910; Military Report on Honan, 1906.

General direction WNW. The two cities are now connected by a railway (see Chap. IX, railway No. VII).

The present route is via Siayi. Apparently a somewhat shorter and possibly better road would be found via Yücheng Ho. The latter alternative has the further advantage of being all the way within a short distance of the railway.

The country is liable to be flooded, when the road often becomes impassable and numerous detours have to be made. On the whole the road is bad between Süchowfu and Kweiteh, but improves farther west. It is however passable for carts, though mainly used by wheelbarrows and pack-animals.

In Kiangsu the country near the old bed of the Yellow River is thickly populated, and appears to be particularly prosperous. Elsewhere, on the other hand, villages are fewer, generally very poor, and in a ruinous condition.

Chief products : black beans, kaoliang, and cotton.

Only about 67 miles of the present route lie in the province of Kiangsu, the rest being in Honan. As the journey was undertaken at the time of great floods distances are only approximate, especially for the Kiangsu section. In the Honan section distances agree with those of the North China Route Book, except that the latter estimates the distance from Kweiteh to Ninglinghsien at 18 miles only.

li	miles
0	0

**SÜCHOWFU**, P. T. RS. (see *Gazetteer*). Route leaves through NW. corner of city, and after about 2 miles ascends to the old bed of the *Yellow River*, which forms an extensive plateau mostly about 50 ft. above the surrounding country.

li	miles	
25	8½	Road skirts NE. extremity of a hill running NE.-SW. Only small villages on this stage.
45	15	<b>Ho-chai.</b>
53	17¾	<b>Li-ssü.</b>
63	21	<b>Wu-chêng-chuang.</b>
77	26	<b>Ho-chi-êrh</b> , large village. About ¾ mile before reaching the village route leaves the old bed of the Yellow River and descends through the embankment into the neighbouring plain. Villages less numerous.
89	29¾	<b>Ch'ü-chi-êrh.</b>
114	38	<b>Huang-k'ou</b> (not to be confused with village of same name at mile 49½).
124	41½	<b>Hou-lou.</b>
132	44	<b>Chang-chuang.</b>
137	45¾	<b>Wang-chi-êrh</b> , large market village.
140	46¾	<b>Ma-chia-k'ou.</b>
148	49½	<b>Huang-k'ou.</b>
150	50	<b>T'ien-lou.</b>
170	57	<b>Tangshan Ku, P.</b>
?	68(?)	<b>Lo-ch'i.</b> First village in Honan, the provincial boundary being crossed about one mile before entering the village, or about 10 miles beyond Tangshan Ku.
238	79	<b>Kuo-li-chi.</b>
250	83	<b>Siayi, P.</b> , a market town.
252	84	<b>Tung-kuan.</b> Route crosses brick bridge outside the village.
259	86½	Three-arch brick bridge over stream running S., about 30 yards wide.
265	88½	<b>Wang-ying</b> , large village with mud wall.
280	93½	<b>San-kuan-chi</b> , large village.
288	96	<b>Yüan-chung.</b>
298	99¼	Cluster of 4 small villages.
308	102¾	<b>Chan-chan-chi.</b> Junction of roads.



li	miles	
331	110½	<b>Kushutsi</b> , P., large village with mud wall. Bridge over river outside the E. gate.
342	114	<b>Man-chung-ch'iao</b> , large market village with ruined mud walls. Outside the W. gate is a five-arch brick bridge over river flowing 145°; 30 ft. wide, very shallow.
352	117¼	<b>Ts'ai-tao-k'ou</b> .
364	121	<b>Shih-li-p'u</b> .
374	124½	<b>KWEITEH</b> , P.T. RS., a prefectural city of some 6,500 families, situated in well-cultivated country. The wall is faced with brick, and is about 30 ft. high, surrounded by a large moat with water, 200 yds. (? ft.) wide. It is encircled at a distance of about ½ mile by a mud embankment, 15 ft. high. The space between it and the city wall is low-lying and not built over, with a large amount of fallow land and standing water. The roads which enter the four city gates cross the moat on mud-banks. Inside the city is well filled with houses, the buildings over the four gates being the most prominent. There are one or two large temples. Supplies, carts, and barrows procurable. Good camping-ground outside the mud embankment. Road leaves the city by the W. gate. Direction W.
384	128	Brick bridge over small stream.
401	133½	<b>Shui-shih-p'u</b> , town with mud wall and gates.
421	140	<b>Kwanyintang</b> , P., large market village with gates and mud walls.
428	142½	<b>Shih-li-p'u</b> .
437	148½	<b>Ninglingsien</b> , P. RS., small district walled town, surrounded by a belt of water 3 miles broad, outside which is a mud-bank. The district is a poor one, with much saltpetre in the soil. Supplies scarce. Carts and barrows can be

li	miles	
		obtained in small quantities. Camping-grounds outside the mud-bank.
		Very few villages in this neighbourhood.
		Direction SW.
467	155½	<b>Yangyipu</b> , P., large village with gates and mud walls.
472	157	<b>Yü-ch'i-t'un</b> . Route crosses the <i>Chang-kung Ho</i> , a river flowing SE.
474	158	<b>Hsiao-lin-tien</b> (or Hsiao-lin-chuang ?).
477	159	<b>Chou-p'ing-kuan</b> .
487	162	<b>Suichow Ho</b> , P. R.S., a departmental walled city, situated in flat country. The space inside the city walls is very devoid of houses, the city being a poor one. Business is small, and for the most part carried on in the E. suburb. The surrounding district is also poor. Supplies, carts, and barrows obtainable in limited quantities. Good camping-grounds in the vicinity.
		Direction NW.
502	167½	<b>Ch'êng-kuo-t'un</b> (or Ch'ang-ku-t'un), village on the usually dry bed of the <i>Hui-chi Ho</i> .
507	169	<b>Liu-t'un-êrh</b> .
512	170¾	<b>Yüsiangpu</b> , P., a large walled village. Brick bridge over stream. Junction of roads at E. side.
514	171½	<b>T'u-kung-chia</b> .
521	173½	<b>Tsung-wan</b> .
523	174	Brick bridge over canal.
529	176	<b>Shih-hou-p'u</b> .
539	179½	<b>Shih-li-p'u</b> .
546	182	<b>Kih sien Ho</b> , P. R.S., a large walled district town situated on flat country, from which wheat of an excellent quality is produced. This district is the second richest in the province. Supplies, carts, and barrows plentiful. Good camping-grounds in the vicinity. Water from wells. Dike at right angles to road just outside W. suburb.

li	miles	
558	186	<b>Shih-li-p'u</b> , large village.
569	189½	<b>Ko-kang</b> , large village, junction of numerous roads.
579	193	<b>Hankang</b> , P. Market town with gates and mud walls.
585	195	<b>Chou-chai</b> .
589	196¼	<b>Ch'iao-lou</b> . A road branches off to Chê-kou.
593	197½	<b>Liu-lou</b> .
600	200	<b>T'ai-shan-miao</b> .
605	202	<b>Chenliu</b> , P. RS., a small, walled district town, situated on flat open country, only partially cultivated, as parts have been rendered barren by former inundations of the Yellow River.
613	204½	<b>Shih-li-p'u</b> .
620	206¾	<b>Hsi-lai-chi</b> .
625	208½	<b>T'ai-p'ing-kang</b> , large village.
630	210	<b>Wang-chia-chuang</b> .
633	211	<b>Wang-chia-t'un-êrh</b> . Brick bridge over canal, 20 ft. wide, just E. of this place.
635	212	<b>Kao-lou</b> .
642	214	<b>Man-chou-chuang</b> .
647	215½	<b>Wên-chuang</b> .
650	217	<b>KAIFENG</b> , P. T. RS., a large and important city, the capital of the province. Population about 200,000. It is situated on a sandy plain about 5 miles from the S. flood-bank of the Yellow River, and surrounded at a distance of about 2 miles by a large mud-bank 12 ft. high. The country between the bank and the city, on E. side, is well wooded and covered with groves ; that to N., S., and W. is more or less open. About ¾ mile to SE. of city is a massive-looking pagoda about 50 ft. high. The city walls enclose roughly a space 2 miles square. The walls, 35 ft. high, are crenellated and faced with large bricks. There are 5 gates of usual double type,

li	miles
----	-------

with large buildings over them. There are several lakes and ponds inside the city walls.

The surrounding country is at a considerably higher level than the space inside the walls, and for that reason water, once it gets into the city, lies there stagnant.

The chief products of the district are wheat of fine quality (not, however, in sufficient quantities for the needs of local consumption), cotton, ground-nuts, soda, and saltpetre.



## SECTION III

### GAZETTEER OF CITIES AND TOWNS

#### NOTE

GENERALLY speaking, the cities and towns of Kiangsu are surrounded by defensible walls, of which the trace varies ; it is either circular or shaped as a fairly regular four-sided figure. The walls may be of any height from 15 to 40 ft., and of a thickness of from 10 to 20 ft. They are of rubble, faced on both sides with brick or with squared stone. They are topped by battlements, 5 to 10 ft. high and 2 to 4 ft. thick, crenellated and pierced for musketry. At irregular intervals small rectangular buttress-like projections are built out from the wall and give flanking defence. Occasionally the wall is backed by an earth bank leading by an easy slope to the top of the wall ; in other cases the top is reached by steps. Such a wall is a most formidable obstacle, being proof against the battering of all but heavy guns, and being impossible to climb without the use of ladders.

The walls of every city are pierced by four or more gates, of which the principal ones are usually named after the cardinal points of the compass. They are tunnels through the wall, and may be from 6 to 12 ft. high and from 5 to 12 ft. wide. The passage is closed by heavy, iron-bound, wooden doors. The doors are protected against fire from the outside by a sweep of wall similar to the main wall of the city, enclosing a semi-circular to rectangular space which may be from fifty to several hundred yards each way. The entrance to this space is at one side. A similar space is occasionally found inside the gate as well as outside. The gates and the corners of city walls

are as a rule surmounted by watch-towers. The condition of the walls varies greatly. Those of the more important cities, such as Nanking and Soochow, are kept in good repair. Those of comparatively unimportant cities, such as Kunshan and Kūyung, are entirely neglected and are allowed to fall into a state of dilapidation. The majority of the cities are intersected by a number of creeks passing through culverts under the walls; these are usually provided with water-gates, either of wood or iron, which can be opened and closed from inside the walls.

Outside the walls, at a distance of from 5 to 100 yds., there is generally a moat which may vary from 5 to 100 yds. in width and from 2 to 20 ft. in depth, the average dimensions being 30 yds. and 12 ft. respectively. The moat, as a rule, encloses the city almost entirely, and forms part of the surrounding waterway system, with which it has numerous connexions.

#### CHANGCHOW KU. (See Plan)

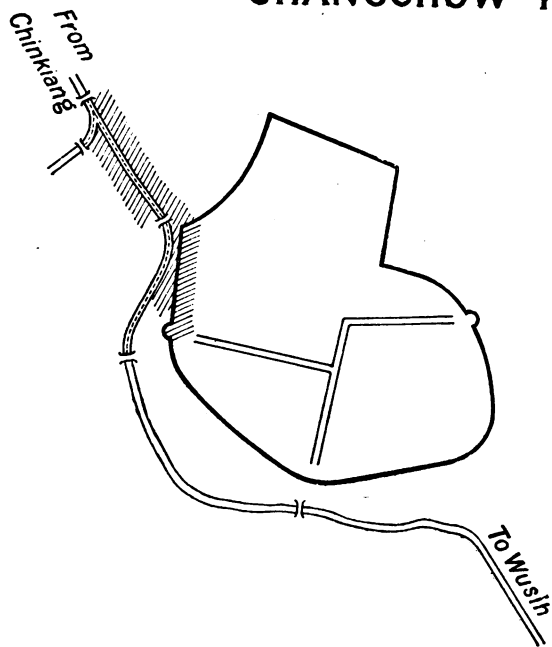
Approximate { Latitude,  $31^{\circ} 47'$ .  
Longitude,  $119^{\circ} 59'$ .  
Height, sea-level.

*Authority:* Mainly Military Report on Province of Kiangsu (South), 1909.

**Changchow**, locally pronounced Zang-tzeu, is an ancient city on the Grand Canal. Its walls, which date from the Ming period, are  $4\frac{1}{4}$  miles in perimeter and about 25 ft. high. They are pierced by 7 gates, and surrounded by a moat 5 to 15 yds. wide and 3 to 8 ft. deep. They are further protected on the W., S., and E. sides by the waters of the canal, to which 4 sluice-gates open. The city has a busy junk traffic, and is also a mooring-place for lumber-rafts from Kiangsi. There are extensive suburbs on the east, west, and north. Its products are rice, wheat, beans, and silk.

The surrounding country is intersected by creeks and slightly undulating, but is fairly passable for infantry.

## CHANGCHOW KU.



Rough Sketch Plan. Dotted lines in canals show where boats are likely to be found. Shading shows business quarter.



The Methodist Episcopal Church (Southern), U.S.A., has a station at Changchow Ku, and there are 3 men and 5 women missionaries resident. There is a post and telegraph office. The Shanghai-Nanking Railway has a station at Changchow Ku, situated about half-a-mile NE. of the city.

*Distances from Changchow Ku*

	miles	
To Wusih, by water	25½	Route 1 A
Tanyang „	27	„ 1 A
Kiangyin „	24	„ 15
Wusih, by rail	24.14	—
Tanyang, by rail	27.83	—

**CHANGSHU KU.** (See Plan)

Approximate	{ Latitude, 31° 36'.
	{ Longitude, 120° 49'.
	{ Height, sea-level.

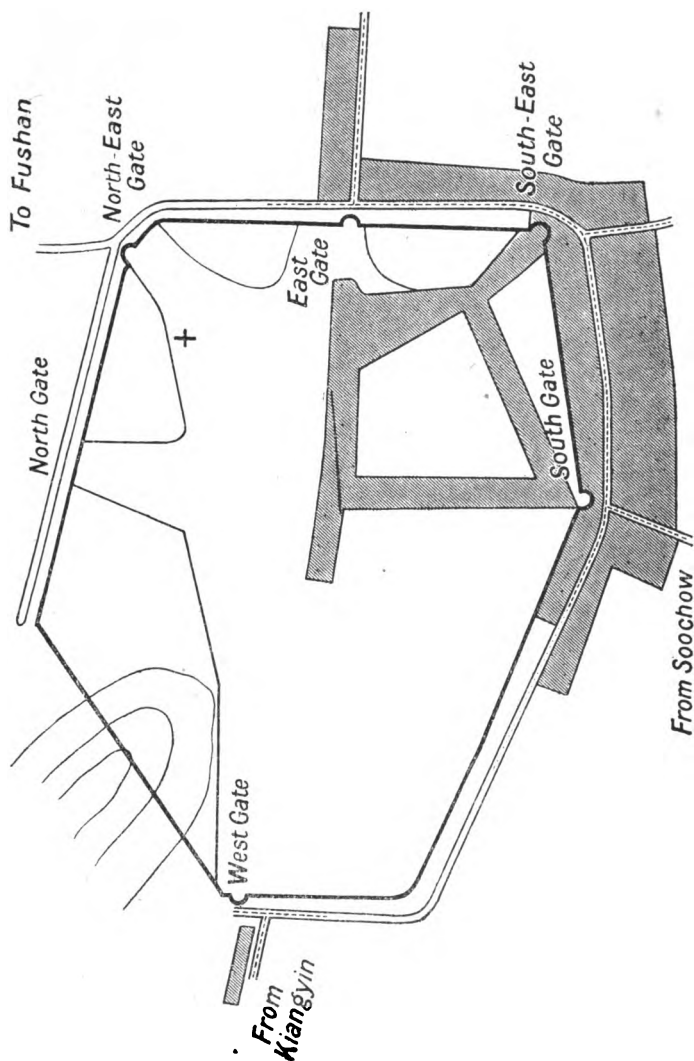
*Authority* : Mainly Military Report on Province of Kiangsu (South), 1909.

**Changshu**, locally pronounced Zang-zou, is a walled city of the usual type. The walls are about 20 ft. high and in fair repair. They have a perimeter of about 3½ miles and are surrounded by a moat 10 to 15 yds. wide and 6 ft. deep. There are extensive suburbs on the east and south, the latter being the business quarter of the city. The surrounding country is a flat plain intersected by numerous waterways; a range of hills, called Niu-t'ai Shan, projects into the city on the north-west, and commands the whole of its interior.

Changshu Ku is approached by water routes from Taitsang in the SE. ; from Kunshan in the SSE. ; from Soochow in SSW. ; from Wusih in the WSW. ; from Kiangyin in the NW. ; and from Fushan in the N. See Routes 9-13.

There is a post and telegraph office.

# CHANGSHU KU.



Sketch Plan. Dotted lines in canals show where boats are likely to be found. Shading shows business quarters.

*Distances from Changshu Ku*

		miles	
To Soochow	by water	22½	Route 11
Kunshan	"	25	" 9 B
Wusih { via Huang-ni-tai	"	27	" 12 A
{ via Tungting	"	29	" 12 B
Taitsang	"	31½	" 9 A
Kiangyin	"	40	" 13
Shanghai { via Taitsang	"	85½	" 9 A
{ via Tungtangshih	"	74½	" 9 C
Tungtangshih	"	10½	" 9 C
Fushan	"	11	" 10

**CH'ING-HO HSIEN** (Tsingho) ; see **Tsingkiangpu**.

**CHINKIANG.** (Map No. 3)

Approximate { attitude, 32° 10'.  
 Longitude, 119° 26'.  
 Height, 100 ft.

*Authorities :* China, Maritime Customs, Decennial Reports ; Yangtse Kiang Pilot, 1914 ; Imp. Japanese Rlys., Official Guide, vol. iv.

**Chinkiang** is a walled city of the usual type situated on the south bank of the Yangtse where the latter is joined by the Grand Canal. It is an important treaty port, opened for foreign trade in 1861. In recent times it has been officially named Tan-t'ou-hsien.

*The City and Suburbs.*—The walls, which are double, are 25 ft. high, with a perimeter of 4 miles. They are in fairly good repair, and have a moat on the west and south 3 to 15 yds. wide and 1 to 6 ft. deep, according to the season. The Grand Canal approaches Chinkiang from the SE., and, passing along the west side of the city, joins the Yangtse at the eastern end of the British Concession. There is, however, a small cutting through the city itself to facilitate the com-

merce of the place. The north face of the city wall approaches within a few hundred yards of the bank of the river. There is an extensive suburb outside the West Gate and a small one outside the South Gate, the former being the principal business quarter of the city.

Conspicuous objects at Chinkiang are the white buildings of the London Missionary Society, standing behind the city on an elevation near which is a pagoda ; the British Consulate, a red-brick building on the slopes of Yün-t'ai Shan, a mile west of the city ; Garlic Hill at the west end of bund, on which a white beacon has been erected ; the pagoda on Golden Island Hill,  $1\frac{1}{2}$  miles west of the city ; and Consular Bluff (about 140 ft. high), a point north of the city wall, on the east slope of which are some temples.

The **population** is estimated at about 182,000.

The **British Concession** lies along the Yangtse as far as the base of Chin Shan. It is bounded for an extent of 700 yds. from the mouth of the Grand Canal, which is near the Imperial Custom-house, to Garlic Hill, a steep hill near which is the British Consulate on the slope of a hill named Yün-t'ai Shan. Along this front the hulks which form the landing-stages are moored.

The Concession and the adjacent suburb are lighted with electricity by a Chinese company, and the Concession has a supply of filtered water laid on from a water-tower.

The **landing-places** at Chinkiang are bad except at high water, and the trade of the town suffers from the changes which are always taking place in the bed of the river and from the chronic neglect of the waterway in the Grand Canal. The changing nature of the river-bed is well illustrated by the fact that Chin Shan, the famous Golden Island, is now a precipitous rocky hill on the right bank of the river. In 1823 this hill is said to have been on the left bank ; in 1842 it was in the middle of the river ; in 1862 it was joined to the right bank by a spit ; and in 1907 it was nearly 700 yds. inside the low river edge. It is probable that the hulks will all have to be moored farther down-stream at no distant date.

The chief **exports** are beans and peas, wheat flour, silk, medicines, sesamum-seed and ground-nuts. There are **aluminum** factories, flour-mills and silk filatures.

The **shipping** returns for 1915 show that 2,013 steamships and 434 sailing ships, with a tonnage of 3,585,800 and 43,687 respectively, entered and cleared at Chinkiang.

*Surrounding Country.*—The surrounding country is hilly, and is fairly passable for all arms. The city is hemmed in and commanded from the land side by hills within easy artillery range. Silver Island in the river and the hills on the river-bank north-east of the city are fortified against an up-river advance. About 3 miles above Chinkiang the Grand Canal commences its course to the northward on the left bank of the Yangtse, and on the west side of the triangular island on which is the walled town of Kwachow.

*Supplies.*—Beef is plentiful, and there is a fair supply of mutton. Fish is abundant, vegetables and fruit are cheap, and all kinds of stores are obtainable.

*Transport.*—The road transport is confined to wheelbarrows, pack-animals, and porters, the roads being unfit for wheeled traffic. There are extensive facilities for canal and river transport, and the Shanghai-Nanking railway runs past Chinkiang.

The stations of the Shanghai-Nanking Railway at Chinkiang are Chinkiang Flag Station, near the south-west corner of the city, and Chinkiang Station,  $2\frac{1}{2}$  miles by rail farther west. Between the two stations is a tunnel 1,320 ft. long, through Fort Hill (Pao-kai Shan). A small branch-line connects Chinkiang Station with the river front east of Fisherman's Rock.

*Government.*—The chief official under the new régime is known as the Min-chêng-chang, and he is supposed to perform the functions of Tao-t'ai, Prefect, Magistrate, and others. Two special courts of justice were established in 1911, the Treaty Port Court and the Local Court. The former is situated outside the West Gate of the city and is intended to deal with cases arising between foreigners and Chinese. The Local Court

is inside the South Gate. Chinkiang is a military station, and it has a police force organized on modern lines.

*European Residents.*—There are about 80 European residents, including thirty missionaries, at Chinkiang. The British, German, French, and Austro-Hungarian consulates are in the Concession. The missions represented are the American Presbyterian Mission, Southern; American Southern Baptist Mission; China Inland Mission; Methodist Episcopal Mission; and the National Bible Society of Scotland.

*Communications.*—The roads round Chinkiang are unfit for wheeled transport and only usable by pack-animals and wheelbarrows. There is, however, every facility for water transport north and south on the Grand Canal, and east and west on the Yangtse. Steamers call daily, up and down stream, on the Yangtse. There is also railway communication with Shanghai and Nanking and intermediate points on the Shanghai-Nanking Railway. Besides the Chinese post and telegraph offices, there is a German and a Japanese post office at Chinkiang. A submarine cable crosses the Yangtse north and south on the west side of the Consular Bluff, the shore end being marked by a white post which is lighted at night with a red light.

*Distances from Chinkiang*

		miles	
To Shanghai	by water	165	
„	by rail	150	
Nanking	by water	47	
via Kaotze	by land	42	Route 17 A
via Tanyang	„	70	„ 17 B
Nanking	by rail	43	
Tanyang	by water	20½	Route 1 A
„	by land	16¼	„ 17 B
Küyung	„	43	„ 17 B
Tsingkiangpu	by water	111½	„ 19 (1)
Yangchow	„	14¼	„ 19 (1)
Hwaiianfu	„	102¾	„ 19 (1)

To Hangchow	by water	miles 206 $\frac{3}{4}$	Route 1 A
via Pingwang and Huchowfu	„	211 $\frac{1}{4}$	„ 1 B
via Soochow and Huchowfu	„	201 $\frac{1}{2}$	„ 1 C
via Loshe and Huchowfu	„	196	„ 1 D
via Shihmen Che and Changan	„ about	201	„ 1 E
Wusih	„	73 $\frac{3}{4}$	„ 1 A
Soochow	„	104 $\frac{1}{2}$	„ 1 A

### CHWANSHA

Approximate { Latitude, 31° 11'.  
Longitude, 121° 43'.  
Height, sea-level.

*Authority:* Military Report on the Province of Kiangsu (South), 1909.

**Chwansha**, or Ch'uan-sha-t'ing (local name Ts'êng-sho-t'ing), recently officially named Ch'uan-sha-hsien, is a walled city, nearly square, the north and south faces measuring about 800 yds. each and the east and west faces 700 yds. It is surrounded by a brick wall 2 or 3 ft. thick, which varies from 20 to 30 ft. in height, and is backed up on the inside by an earth and masonry bank 6 to 12 ft. thick at the top, and sloping so that it can be climbed anywhere. The wall is completely broken down on the west face at a point close to the north-west corner; there are three other breaches in the north face between the North Gate and the north-west corner. The city has four gates, one in each face. They are not in the centre of the faces. Each of these gates is protected by a wall, similar to the city wall, built in front of the gates so as to enclose a space about 15 yds. square, this space being entered by a gate at the side. The wall is also pierced by two water-gates by which boats can

enter, one just north of the West Gate and the other just south of the East Gate. These water-gates would admit boats 8 ft. high and 10 or 12 ft. wide. Outside the wall is a navigable waterway 40 to 50 yds. wide and 4 to 9 ft. deep, which completely encircles the town and forms a moat. Between the wall and the moat is a space averaging 5 yds. in width, but at the two water-gates the wall comes right down to the moat. The moat is crossed at each of the city gates by a single-span wooden bridge, the moat narrowing at the bridges to 10 or 12 yds. The town contains about 800 houses inside the walls, and there are suburbs outside the North and East Gates, so that the total is probably about 1,000 houses.

*Surrounding Country.*—Chwansha lies in a level plain highly cultivated, full of villages and farms, and much cut up by creeks.

*Supplies and Transport.*—Fairly good supplies of rice, flour, fish, pork, and vegetables are obtainable, but the city is not rich. Boats are the only means of transport available; about 60 craft of different sorts were counted here in 1908.

*Government.*—Under the Manchu régime the city and district were under an official of the T'ing class, who was subordinate to Sungkiangfu. There was a military mandarin of the rank of *Shou-peï* or captain, with a few soldiers.

*Communications.*—A waterway practicable for boats of 3 ft. draught connects Chwansha with Shanghai. Immediately to the east of the town is an old sea-wall which runs through the east suburb and cuts Chwansha off from direct communication with the sea. This sea-wall is, however, pierced by a waterway about 1 mile north of the city, so that communication by water can be obtained with a second sea-wall, although not with the sea.

There is a post and telegraph office at Chwansha.

#### *Distance from Chwansha*

To Shanghai, by water, 19 miles.



**FENGSIEN**

Approximate	{	Latitude, 30° 55'.
		Longitude, 121° 42'.
		Height, sea-level.

*Authority:* Military Report on the Province of Kiangsu (South), 1909.

**Fengsien**, locally called Fêng-yen-yüen, is a city surrounded by a brick wall 25 to 30 ft. high and 3 ft. thick. This wall is backed up on the inside by an earth and masonry bank 5 or 6 ft. lower than the wall and 8 to 12 ft. thick at the top, sloping down so that it can be climbed from the inside. On the outside there is a sloping bank of earth, 12 ft. high, banked up against the wall, which reduces the apparent height of the wall by this amount. By the aid of this bank and of the numerous bushes that grow out of the wall, it could be climbed almost anywhere. The outside bank, however, does not exist at the gateways. There are four gates, one about the centre of each face. The gateways are protected in front by a wall of the same size as the city wall, enclosing a space about 50 yds. square, and entered by a side gate. All round outside the wall, at a distance of about 50 yds., there is a navigable waterway 30 to 40 yds. wide and from 6 to 10 ft. deep. This is crossed at each gateway by a single-span wooden bridge on stone abutments. At the bridges the waterway narrows to 10 yds. or less. Inside the city walls there are numerous open spaces. The city contains about 500 houses, and there are practically no suburbs.

*Surrounding Country.*—The city lies in a level plain much cut up by creeks, highly cultivated, and full of villages and farms.

*Supplies and Transport.*—Fengsien is extremely poor and there is no trade. Supplies of rice, flour, vegetables, &c. could be obtained in small quantities. A few boats are obtainable, but only 20 were seen here in 1908. Rough carts drawn by one buffalo are used in the country between Fengsien and the sea. These are restricted to one or two roads and are only used for farming operations.

*Government.*—In Manchu times the city and district were under a Hsien magistrate, who was subordinate to Sung-kiangfu. There was no garrison beyond a few soldiers for police purposes.

*Communications.*—Fengsien is connected with Shanghai by waterways navigable for boats of 4 to 4½ ft. draught. Navigable waterways also connect it with Nanhwei (Nên-wei-yüen) via Sinchang and with Chin-shan-hsien via Nankiao Ku. The city lies 5 miles from the sea and is cut off from communication with it by the sea-wall which prevents boats going through. This part of the coast is too shallow to allow of junks approaching it from the sea.

There is a post office agency at Fengsien.

*Distances from Fengsien*

		miles	
To Shanghai via Sinchang and			
	Chä-chiang	by water 35½	Route 2 A
„ via Shên-hsiang-ch'ien			
and P'u-hsing-ch'iao	„	32½	„ 2 B

**FOWNING.** (See Plan)

Approximate { Latitude, 33° 46'.  
 { Longitude, 119° 50'.

*Authority:* G. E. Pereira, 1908.

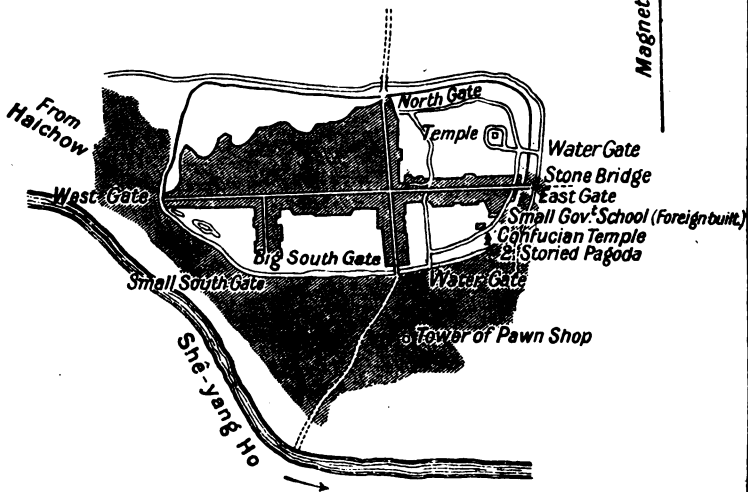
**Fowning**, Fu-ning-hsien, is a poor city, lying ¼ mile from the north bank of the Shê-yang Ho. It is in shape an oval lying east and west, enclosed by the usual battlemented brick wall, 20 to 24 ft. high. The city measures 1,030 yds. from east to west, and 550 yds. from north to south. A good deal of this small enclosure is given up to cultivation and several temples, and it is intersected by several small canals with very little water in them. Houses are built partly of brick and partly of mud. There are five small gates (two on the south side), each with single entrances; there are also two small water-gates,

# FOWNING

Scale  $\frac{1}{21120}$  or 3" to 1 Mile.

Yards 400 0 400 800 Yards

Magnetic North ↑



through which even small boats could not go, one 95 yds. east of the South Gate, and the other 96 yds. north of the East Gate. At the SE. corner of the wall there is a two-storied pagoda or tower, with a ladder going half way up it. The business part of the city is in the suburb which extends between the walls and the river to the south-west and south of the city. The **population** inside the city is probably about 5,000, and in the suburbs it may be anything from 15,000 to 25,000. There are no north or east suburbs. The figures for the whole district (*hsien*), according to *Yamên* returns, are 795,668; but too much reliance should not be placed on them. There are no missionaries, and very few foreigners have ever been here.

*Government.*—In 1908 the police numbered 50, and were untrained. There is a small *Yamên* guard of soldiers and some war-junks.

*Communications.*—The Shê-yang Ho coming from Hwaiianfu, 150 li (50 miles) distant by land, flows to the SW. of the city, where it is a fine river 150 to 200 yds. wide and over 20 ft. deep. It then winds in an easterly direction (see Route 26 C) and reaches the sea at the temple Hai-shan-miao. According to local information, boats drawing 4 and 5 ft. can ascend to Hwaiianfu, and boats go to Shanghai from April to August: at other times there is not enough water. The salt-boats follow the Kang Ho, Shang kang Ho, and Ch'uan-ch'ang Ho to Yencheng Ku. The Shê-yang Ho is said never to freeze, but the Kang Ho may in a severe winter.

There is a post office in Fowning.

*Distances from Fowning*

		mile	
To Tungchow	by land	about 222½	Route 21 A
"	by water	" 179	" 21 B
Yencheng Ku	"	" 42½	" 21 B (6)
Tungtaihsien	"	" 95	" 21 B
Tungchow via Tai-chow Ku	"	" 239	" 21 C

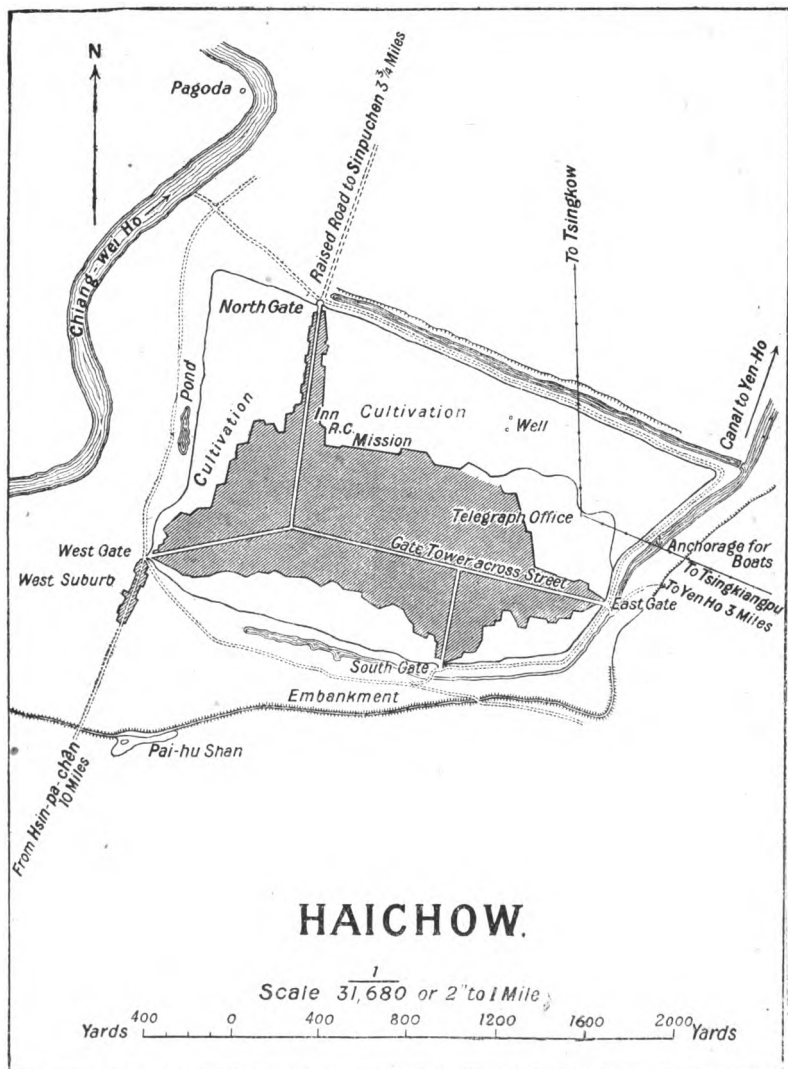
To Liu-cha	by water	miles 148 to 177	Routes 24 A, B, C, and 26 A
Hwaiianfu	„	about 62½	Route 26 B
the sea	„	76	„ 26 C
Haichow	by land	„ 83½	„ 27 A
„	land and water	„ 81½	Routes 27 A and 28 A

### HAICHOW. (See Plan)

Approximate	{ Latitude, 34° 36'.
	{ Longitude, 119° 18'
	{ Height, sea-level.

*Authority* : mainly H. R. Davies, 1908

**Haichow** has recently been officially divided into two parts known as Kuan-yün-hsien and Tung-hai-hsien. The city is of somewhat irregular shape, roughly an oblong, measuring about  $1\frac{1}{4}$  miles from east to west and  $\frac{3}{4}$  mile from north to south, with a perimeter of about 4 miles. It is surrounded by a wall built chiefly of brick but partly of stone, about 25 ft. high,  $1\frac{1}{2}$  ft. thick at the top, and backed on the inside by a bank 6 to 8 ft. lower than the wall, and 6 ft. thick at the top, sloping away gradually to the inside, so that it is from 40 to 60 ft. thick at its base. It is accessible anywhere from the inside. There is a gate in each of the four sides. Each is protected by a wall similar to but smaller than the city wall, enclosing a semicircular space of 30 yds. radius in front of it. These spaces are entered by another gate which at the North Gate is in the west side of the space, at the East Gate in the south, at the South Gate in the east, and at the West Gate straight in front. Near the west and north sides of the city there are open spaces and gardens, but the rest of it is fairly thickly covered, and probably contains about 1,500 houses in addition to a suburb of about 50 houses outside the West Gate. The **population** has been estimated at 10,000. Haichow is still a backward place. Its former importance as a port has been much reduced by the silting up of its waterway.



*Surrounding Country.*—On the north and west sides the country is flat and open, and the Haichow Ho or Ch'iang-wei Ho, a tidal, navigable river, averaging 100 yds. in width, flows northward within  $\frac{1}{4}$  mile of the west face of the city. On the east and south sides, the lower slopes of the Haichow Shan (also called Ching-p'ing Shan and the Ch'ü-yang Shan), a steep, rocky hill of considerable height, extend to within  $\frac{1}{2}$  mile of the city, making the approaches irregular and broken. They end with a bank, which appears to be partly artificial, running round this part of the city at a distance from it of 200 to 300 yds., and giving complete cover from the top of the city walls.

*Supplies.*—Supplies of flour, wheat, millet, chickens, fish, and vegetables are to be found in considerable quantities. There are very large supplies of flour in the mill at Sinpuchen,  $3\frac{1}{2}$  miles distant (see Sinpuchen). Water near Haichow is apt to be brackish. The best well is outside the East Gate. Others exist in the city, but the water-supply is bad, and limited in quantity.

*Transport.*—Carts are used, but wheelbarrows are the common form of transport of the country and are to be obtained in considerable numbers. At Haichow only a few boats are available either on the Haichow Ho or the Yen Ho (No. 1). There are large numbers at Sinpuchen.

*Government.*—In 1908 Haichow was a *Chih-li Chou* (Independent Sub-Prefecture) directly under the Tao-t'ai at Süchowfu. The districts of Shuyang and Kanyü and the important town of Tsingkow were under its jurisdiction. There was a small garrison whose chief duty was the prevention of salt smuggling.

*Missions.*—The American Presbyterian Mission (Southern) has a station outside the north of the city, and the Jesuit Mission bought a house with the purpose of establishing a missionary here in 1908.

*Communications.*—There is a direct road south to Tsing-kiangpu; northwards there is one to Tsingkow and Ichowfu, and NE. another to Sinpuchen. There is water communication





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by the Hai-chow Ho with Sinpuchen down stream, and with Shuyang up stream. A canal with 1 ft. of water in winter and 2 to 2½ ft. in summer connects the NE. corner of Haichow with the Yen Ho (No. 1) 2 miles distant at Hsin-ho-t'ou.

For information concerning Sinpuchen and the Yen Ho, No. 1, see Sinpuchen.

For projected railway to connect Sinpuchen and Haichow with Tsingkiangpu see Chap. IX, railway No. XIV.

There is a post and telegraph office at Haichow.

*Distances from Haichow*

		miles	
To Tsingkiangpu	by water	95½	Route 28 A
Tsingkiangpu	by land and water	97	„ 28 D
Tsingkiangpu	by land	79½	28 B
via Shuyang	„	91	„ 28 C
Shuyang	„	48½	„ 28 C
Sinpuchen	„	3½	„ 28 B
Tsingkow	„	19	„ 30 A
Jihchaohsien	„	67	„ 30 A
Kiaochow via Jihchao-			
hsien	„	143	„ 30 A
„ via Chüchow			
Sung	„	about 181	„ 30 B
Fowning	„	83¼	„ 27 A
„	by land and water	81½	Routes 27 A
			and 28 A
Nan-ch'êng	by land	6¼	Route 29
Süchowfu, via Ichowfu	„	179	„ 31 A
Kanyü	„	23¾	„ 31 A
Ichowfu	„	75¾	„ 31 A

**HSIA-K'OU** : see **Tsingkow**.

**HUCHOWFU** (Chekiang). (See Plan)

Approximate  $\left\{ \begin{array}{l} \text{Latitude, } 30^{\circ} 54'. \\ \text{Longitude, } 120^{\circ} 4'. \end{array} \right.$

*Authority:* A. H. Hilton-Johnston, April, 1909.

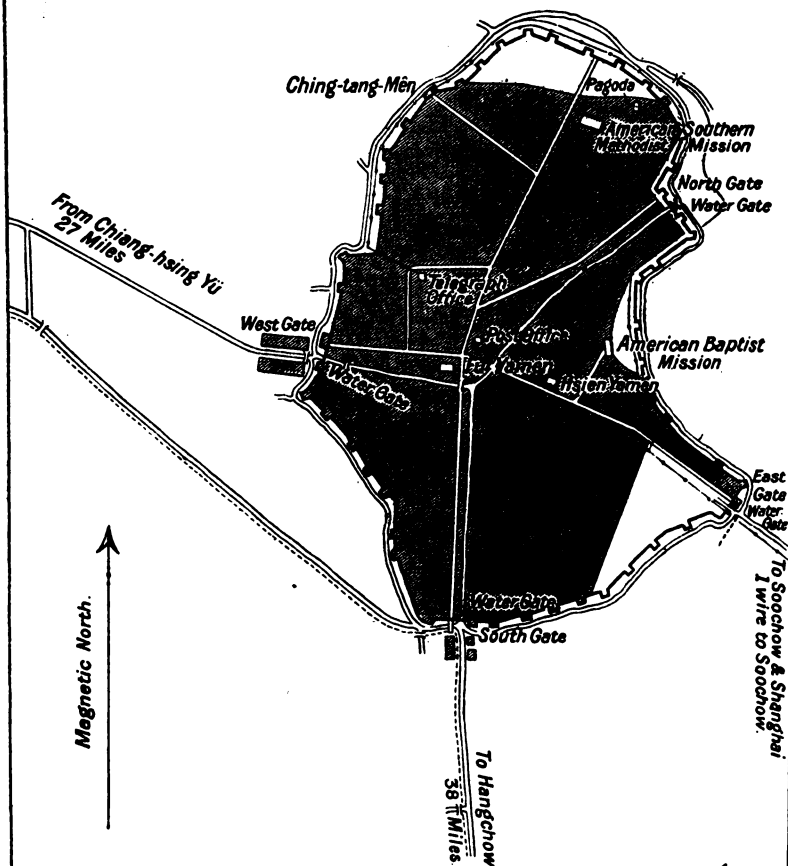
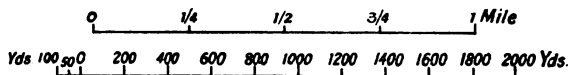
**Huchowfu** (Wu-tseu-fu) is a city of very irregular shape, but more or less an oblong with the long sides lying north and south. The total perimeter is  $5\frac{1}{2}$  miles. It is surrounded by a stone wall about 23 ft. high and 2 ft. thick at the top, backed on the inside by a bank 24 ft. thick reaching within 6 ft. of the top of the wall which is provided with loopholes and crenellations alternately at every 5 ft. The bank is roughly paved with stone, and is revetted on the inside so that it cannot be climbed except at each of the gates where steps lead up to it, and at a few other points. Flank defence is provided by small projecting buttresses at intervals of 160 yds.

There are five gates : (1) South Gate, in south wall ; protected by a bastion 35 yds. square, with entrance in east side. (2) West Gate, in west wall ; bastion 15 yds. deep by 70 yds. wide, with entrance in west. (3) Ch'ing-tang-mên, in west wall ; inner bastion rectangular, 20 yds. deep by 50 yds. wide, enclosed by an outer semicircle of 80 yds. radius ; entrance in north. (4) North Gate, in east wall ; bastion 25 yds. deep by 30 yds. wide ; entrance in south. (5) East Gate, in east wall ; rectangular inner bastion 30 yds. deep by 60 yds. wide, partly enclosed on the north side by an outer defence 50 yds. deep by 40 yds. wide which overlaps the east side ; entrance in the southern part of the east side. A canal surrounds the city and does duty as a moat. It varies in width from 5 yds. along most of the west, north, and east walls, to 40 yds. along the south wall, and is bridged at each of the gates. It is only navigable along the south wall and for short distances near the water-gates.

There are five water-gates through the wall : one beside

# COMPASS SKETCH OF HUCHOWFU.

Scale 2" to 1 Mile



each of the South, West, North, and East Gates, and a small one between the Ch'ing-tang-mên and the North Gate. This last is not now used for floating traffic, and a pathway has been made through it for foot-passengers. Of the others the gate beside the South Gate is the most used. These two gates could not be closed (in 1909) as the wooden gates used to close them were broken. The other three are closed by wooden gates.

The **population** of Huchowfu is variously estimated from 100,000 to 200,000. The inside of the city is fairly well built over, and the only large open space is at the SE. corner. The ground not occupied by buildings is cultivated and planted with mulberry-trees. The suburbs are not extensive; there are small suburbs near the East, South, and West Gates, and a rather larger one outside the North Gate. The business quarter is near the South Gate. The city is noted for silk yarn and silk crepe.

*Surroundings.*—The country immediately round the city is flat, much intersected with creeks and canals, highly cultivated, and thickly planted with mulberry-trees. It is passable for infantry only, and even this arm will experience difficulty on account of the creeks. To the north there is a high hill, a lower spur of which commands the town at a range of 3,500 yds., and the hills to the south-west also command it at a range of 1,700 yds. The mulberry-trees, when in leaf, afford a considerable amount of cover.

*Supplies.*—Supplies of all kinds can be obtained easily at Huchowfu, especially vegetables, poultry, eggs, and fish. Water is plentiful, being drawn from wells and from the creeks and canals, but it should be boiled before drinking. Fuel is plentiful in the form of wood and charcoal.

*Transport.*—Boats form the principal means of transport. They collect chiefly outside the water-gate beside the South Gate, where the steam-launch wharf is situated, and are also found inside the walls along the canal entering the city by this water-gate.

The following were counted in April, 1909 :

Launches . . . . .	1
Large house-boats, with room for 10 to 15 men to sleep . . . . .	30
Small house-boats, with room for 6 to 8 men .	40
Cargo-boats, 50 ft. by 9 ft. . . . .	40
Small boats of <i>sampan</i> class, 25 ft. by 3 to 5 ft.	120

Coolies are the only form of land transport used, and of these there are not many, as the water communications are so good. From 300 to 500 are probably employed in the city.

*Government.*—In 1909 the city was of the Fu class, and included the districts of Wu-ch'êng Hsien (Ung-tsêng Yü) and Kuei-an Hsien. There was no garrison and only a small police force of 30 men, who were armed with Mauser rifles, and appeared to be well trained and efficient.

*European residents.*—With the exception of the missionaries there are no European or American residents in Huchowfu. The following missions have stations in the city :

The American Baptist Mission.

The American Southern Methodist Mission.

The Lazarist Mission.

The members of these missions numbered 15 in 1909 and had increased to 26 in 1913.

*Communications.*—Communication is effected almost entirely by water. Steam-launches towing boats run once a day from Shanghai and Soochow to Huchowfu, and also from Hangchow. Roads are little used and are very few in number. Every place of importance has a good waterway leading to it, and all travelling is done by boat.

There are post and telegraph offices in the city. The post office is near the centre of the city; the telegraph office is about 600 yds. from the West Gate.

*Distances from Huchowfu*

		miles	
To Shanghai—via Pingwang and Lili	by water	108½	Routes 4 A and 1 B
—via Chukiakio	„	105½	Routes 4 B and 1 B
Soochow	„	55	Route 1 C
Hangchow Settlement	„	37½	„ 1 B
Hangchow City	„	43½	„ 1 B
Pingwang	„	41	„ 1 B
Ihing	„	47½	„ 1 D
Loshe	„	86½	„ 1 D

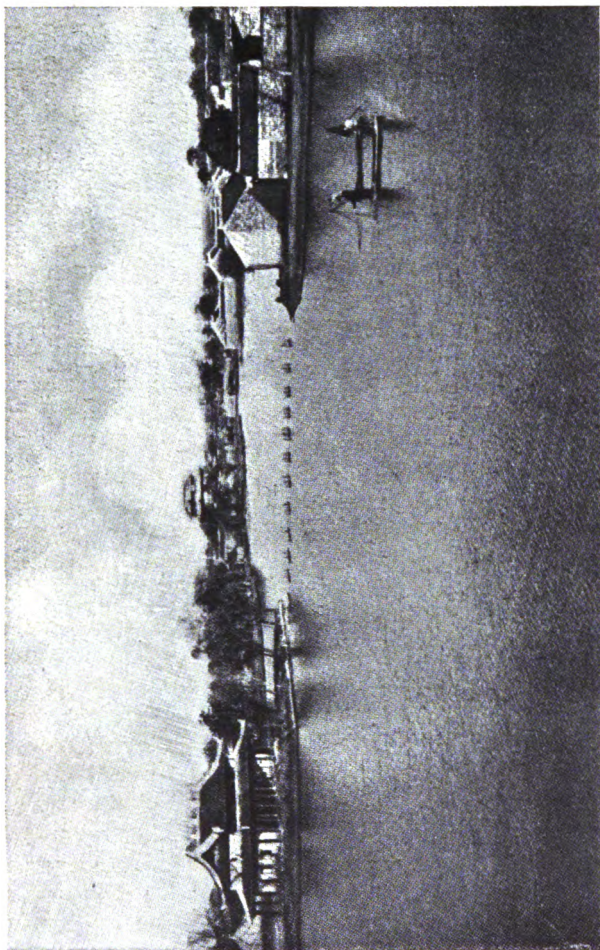
**HWAIAINFU**

Approximate { Latitude, 33° 30'.  
Longitude, 119° 10'.

*Authority*: mainly A. H. Hilton-Johnson, 1908.

**Hwaianfu**, recently officially named *Huai-an-hsien*, and commonly called *Huai-ts'ên*, is a walled city on the east bank of the Grand Canal, 100 miles north of the Yangtse River. The population, which is very poor, is estimated to be about 30,000.

It actually consists of three walled cities, namely, the Chiu-ch'êng, the Hsin-ch'êng and the Ko-ch'êng. The chief of these is the Chiu-ch'êng or Old City, which is roughly square in shape with a perimeter of about 4½ miles. Its west wall runs parallel to, and about 100 yds. from, the canal bank. The Ko-ch'êng and Hsin-ch'êng adjoin the Old City on the north and NE. sides respectively. They are of little importance, and probably do not contain more than about 500 houses altogether. The wall of the Old City is about 25 ft. high and in good repair. It consists of the usual crenellated and loopholed brick facing, backed on the inside by a thick earth bank with a path along the top, accessible from the interior at all points.



NORTH-WEST CORNER OF HWAIAUFU : NORTH KIANGSU



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There are four gates in the Old City, one in each face, and three and five in the Ko-ch'êng and Hsin-ch'êng respectively. These have classical names, but are commonly called after the points of the compass. Each is protected by an outer rampart, built out from the wall to enclose 1,000 or more sq. yds., and having its own gateway at the side at right angles to that of the main wall. These gateways are about 18 ft. square, those in the main wall being considerably larger. Both have heavy, iron-bound, wooden doors which are closed at night. They are surmounted by two-storied gate-houses on the top of the wall.

There are three water-gates, one each in the north, west, and south walls. They are about 12 ft. square, and admit streams on which small boats ply in and out of the city at will.

The interior of the Old City is fairly thickly built over, though there is much water within the walls. The interiors of the two others are mostly open spaces, with a large amount under cultivation. The whole lies below flood-water level, and it sometimes happens that during the summer the gates are kept closed for considerable periods and backed up with earth ramparts for protection against flood. The houses are well built of brick with tiled roofs. The most prominent buildings are the gate-houses on the walls and a drum-tower in the centre of the city.

*Suburbs.*—The principal suburbs are those to the NW. and SW. of the city along the banks of the canal, containing in all more than 1,500 houses.

*Surrounding country.*—The surrounding country is low-lying, very swampy in places, and liable to floods in summer. It is very flat, broken in many places, much under cultivation, and studded with trees. West of the canal, it is generally passable for all arms in the dry season; east of it, the movements of cavalry and artillery would be largely confined to the canal bank and the roads.

*Supplies.*—Large supplies of food, fuel, and forage would always be obtainable. The water from the canal and from wells is good.

*Transport.*—About 300 boats of various kinds and sizes, and one or two steam-launches would be available. Donkeys without pack gear are also largely used, but no carts. Upwards of 1,000 wheelbarrows could also be procured. Horses and mules are seen on the banks of the canal.

*Government.*—In 1908 Hwaiianfu was a city of the first class under its own Tao-t'ai actually residing at Huai-kuan, 4 miles to the north, on the canal. The chief official was the Chih-fu or Prefect, whose *yamên* is inside the North Gate. The Chih-hsien or the district magistrate of Shan-yang Hsien also resided in the city. Another important official was the Tsung-ping or Chên-t'ai, general commanding Chinese Territorial troops. There were about 500 police, mostly in the Old City, and a number of troops quartered on the west side of the canal.

*European residents.*—There is a branch of the American Presbyterian Mission (Southern) here, and also a Roman Catholic Mission with European missionaries.

*Communications.*—Communication is mainly north and south by the Grand Canal, and by a road passable for all arms along the top of its eastern bank, north to Tsingkiangpu and south to Liu-cha. One or more launches call daily in both directions at all times of the year. There are post and telegraph offices in the city.

*Distances from Hwaiianfu (West Gate)*

		miles		
To Tsingkiangpu	by water	8½	Route	19 (1)
Paoying	„	22½	„	19 (1)
Kaoyuchow	„	57	„	19 (1)
Yangchow	„	88½	„	19 (1)
Chinkiang	„	102¾	„	19 (1)
Yencheng Ku	„	77	„	25 B and 25 C
Fowning	„, about	62½	„	26 B

## IHING

Approximate	{ Latitude, 31° 23'. Longitude, 119° 50'. Height, sea-level.
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*Authority*: Military Report on the Province of Kiangsu (South), 1909.

**Ihing** (Wade, Yi-hsing-hsien) is a walled city, lying about 9 miles north-west of the T'ai Hu or Great Lake.

In 1908 it was divided into two Hsien, viz., Yi-hsing Hsien on the west and Tsing-chi Hsien (Ching-hsi Hsien) on the east. The walls are about 24 ft. high, in good repair, of stone with brick parapets, earth embankment inside the walls, 3 or 4 ft. thick at the top, and in places revetted with stone on the inside. The walls, especially on the east side, are irregular in outline, though roughly they follow the cardinal points. The west wall is about 1,140 yds. long, the east wall 1,208 yds., the south wall 692 yds., and the north wall 965 yds. There are five gates, of which the western is double, the rest have single straight exits from the city, and a small uninhabited guard-house over the gateways. The West Gate is 96 yds. from the north-west corner, the South Gate 337 yds. from the south-west corner, the East Gate 957 yds. from the south-east corner and leads into a small, walled, north-west suburb, and the North Gate is 165 yds. from the north-east corner. There is also a small south suburb.

In addition there is a water-gate in the north wall 694 yds. from the south-west corner and another in the east wall 845 yds. from the south-east corner. A canal flows through them from a lake in the west and is filled with boats; two or more small branch canals run up to the north wall. The main east to west canal is crossed by a high stone bridge in the centre of the city.

The magistrate of Yi-hsing Hsien gave (1908) the following details: 'There are 1,200 houses in the Yi-hsing Hsien part of the city. There are no soldiers or foreigners, though the Catholics have mission stations at Shih-li-p'ai, Niu-chia-ts'un,

and Yü-hua-ti near the city. The visiting priest (a Jesuit) is Italian.'

The houses are of stone or brick with tiled roofs. The city is well covered with houses, and with small waste patches in the south-east and north-west corners. Streets are very narrow. An inhabitant put the number of houses in the city for the two Hsiens at 5,000. The chief trade is rice and fish, but the neighbourhood has for centuries been noted for its pottery.

To the west of the city there is a large lake, called the Tung-kuei Hu. High barren hills lie several miles to the south, of which the T'ung-kuan Shan is the highest; foot-hills with some scrub lie 2 miles to the south-east. The T'ai Hu is about 10 miles to the east.

*Communications.*—There are waterways running in many directions, the principal routes being from Ihing to Loshe on the Grand Canal in a north-easterly direction, to Wuhu westerly, and to Hangchow via Huchowfu and the T'ai Hu in a southerly direction.

There is a post and telegraph office in the city.

*Distances from Ihing*

		miles	
To Loshe	by water	39½	Route 16
Liyanghsien	"	22½	" 16
Wuhu	"	102¼	" 16
Huchowfu	"	47¾	" 1 D
Hangchow Settlement	"	86¾	" 1 D
Kaoshun	"	64	" 16

**KAOSHUN**

Approximate { Latitude, 31° 20'.  
                  { Longitude, 118° 55'.

*Authority:* Military Report on the Province of Kiangsu (South), 1909

**Kaoshun** is a small, unwalled town said to contain 1,789 houses. It is very narrow, and the main street runs south-

east and north-west. It is situated at the NW. corner of the Hsiao-nan Hu, where the Kaoshun River flows into the lake. It is on the left bank of the river, and protected from the lake by a 10-ft. embankment which extends about  $\frac{1}{2}$  mile to the south of the city. All the streets are paved.

*Surroundings.*—To the north the country is undulating, and on either side it is low-lying and flooded all the way to Ts'ang-hsi, protected from river and side-creeks by high embankments. Villages are plentiful. The river to the south is crossed by a fine stone bridge of seven arches, about 60 yds. long and 7 yds. wide. Large salt junks from Chinkiang come via Taiping An up to here. They usually cannot come from December to March, but on December 22, 1907, after exceptional autumn rains, there were three or four, one nearly 100 ft. long, drawing  $6\frac{1}{2}$  ft. of water and carrying 1,500 'tan' (about 136 tons). They said they could also go to Wuhu, but this is doubtful, as between Wu-hsi and Wuhu there are two shallow places which big boats cannot often pass, and which force them to go round by Taiping An.

*Supplies.*—The shops are poor: hens' eggs are scarce, and there is little or no beef; but rice, pork and vegetables, ducks' eggs and oranges are plentiful.

*Communications.*—Kaoshun lies on a mixed land-and-water route from Loshe, on the Grand Canal, to Wuhu. There is a post office here.

*Distances from Kaoshun*

	miles	
To Loshe	103 $\frac{1}{2}$	Route 16
Ihing	64	„ 16
Liyanghsien	41 $\frac{1}{2}$	„ 16
Wuhu	38 $\frac{1}{4}$	„ 16
Hsia-tung-pa-chên (Lower Barrier)	12 $\frac{3}{4}$	„ 16

**KAOYUCHOW**

Approximate { Latitude, 32° 44'.  
                  { Longitude, 119° 27'.

*Authority* : A. H. Hilton-Johnson, 1908.

**Kaoyuchow**, recently officially named Kao-yu-hsien, is a walled city on the east bank of the Grand Canal, 43 miles north of the Yangtse. The population is estimated at 15,000. The city is, roughly, a square, of which the west wall and western half of the south wall are skirted by the canal at a distance of about 60 yds. The wall is 20 to 25 ft. high, some  $3\frac{1}{2}$  miles in perimeter, and in good repair throughout. It consists of the usual crenellated and loopholed brick facing, backed on the inside by an earthen bank with a path along the top of it, accessible at any point from the interior.

There are four gates, one in each face, called after the points of the compass. These are protected in front by ramparts thrown out from the wall, and similar to it in construction. Each entrance is surmounted by a small gate-house on top of the wall, and is furnished with heavy, iron-bound, wooden doors, which are closed at night. The gates on the canal bank have their entrances bricked up to 6 ft. wide and 8 ft. high, so that they may be quickly stopped with earth in time of flood, which, as the city lies well below high-water level, often becomes necessary. The canal forms a moat on the west and south, and on the other sides there are smaller waterways near the foot of the wall.

There are extensive suburbs of about 1,000 houses outside the north and south gates. The chief business quarter of the city is situated in the vicinity of the latter, both inside and outside the walls.

A very large area in the interior is not built over, all the western portion being similar to the open country outside, with trees, ponds, cultivation, and scattered houses. The houses are strongly built of brick or stone, with tiled roofs.

The northern suburb especially is clean, open, and contains many buildings suitable for occupation by European troops. The principal landmarks in the city and neighbourhood are two pagodas, about 150 ft. high, just outside the south wall near the corners, and another outside the wall near the SE. corner.

*Supplies and water.*—See under Hwaiianfu. Successful flour-mills have been established at Kaoyuchow recently.

*Transport.*—See under Hwaiianfu, but the numbers of boats and barrows available would be rather less. Boats lie almost entirely in the vicinity of the South Gate.

*Government.*—In 1908 Kaoyuchow was dependent on Yangchow, which itself was under the Tao-t'ai of Hwaiianfu. The chief official was the Chih-chou or sub-prefect, whose *Yamên* was inside the East Gate. There were about 100 police in the city and suburbs, and some troops were also quartered in the city.

*European residents.*—The foreign missions represented were the Roman Catholic and the China Inland Missions, both situated inside the North Gate and in charge of European missionaries: but the Protestant Mission appears to have been recently withdrawn.

*Communications.*—See under Hwaiianfu. The post office is situated in the suburb outside the North Gate. There is a telegraph office. There is water communication to the west, the entrance from the canal to the 'Kaoyu Hu (lake) being immediately opposite the SW. corner of the city wall.

*Distances from Kaoyuchow (West Gate)*

		miles	
To Paoying	by water	34½	Route 19 (1)
Hwaiianfu	"	57	" 19 (1)
Tsingkiangpu	"	65½	" 19 (1)
Yangchow	"	31½	" 19 (1)
Chinkiang	"	45¾	" 19 (1)



**KASHAN** (Chekiang)

Approximate  $\left\{ \begin{array}{l} \text{Latitude, } 30^{\circ} 47'. \\ \text{Longitude, } 120^{\circ} 34'. \\ \text{Height, sea-level.} \end{array} \right.$

*Authority* : Military Report on the Province of Kiangsu (South), 1909.

**Kashan**, Chia-shan-hsien (Wade), or, as it is locally pronounced, Ka-zên, is a city and district in northern Chekiang. The railway station is named Ka-shai. The city is a rough oblong with a perimeter of  $2\frac{1}{2}$  miles, the northern and southern faces measuring about 1,400 yds., and the eastern and western faces 800 yds. The wall is of brick, with a foundation of a few feet of stone ; it averages 20 ft. in height and is 2 ft. thick. On the outside it is backed up by a bank 5 ft. lower than the wall and 20 ft. thick. This bank is revetted with brick on its inner side, so that it cannot easily be climbed except by the steps which ascend it at each gate. There are four gates, one in each face. Each gate is defended in front by a wall similar to the main city wall, enclosing a semi-circular space 30 yds. in radius. The entrance gate to this space in the case of the South Gate is straight in front of the main city gate, but in the other three the entrance is in the side of the semicircle. At the West Gate it is in the south side, at the North Gate in the east side, and at the East Gate in the north side.

All round the city, at a distance of from 10 to 20 yds. from the wall, is a moat which averages 15 yds. in width and varies in depth from 3 to 4 ft. on the north side to 6 or 8 ft. on the south. The moat is crossed by two bridges near the West Gate, and by one bridge at each of the other gates. Inside the walls there are some open spaces near the north side, most of the houses being in the southern half of the city. There is a large suburb outside the East Gate stretching for  $\frac{3}{4}$  mile eastward. Outside the West Gate is another suburb. The street running through the city from the East to the

West Gate appears to be the business quarter. Altogether there are probably 800 houses inside the walls, 600 in the eastern suburb, and 400 in the western suburb—a total of 1,800.

*Surroundings.*—The city is surrounded, except where there are suburbs, by cultivated country, much cut up by creeks, scattered houses, and clumps of trees. The whole country is quite flat.

*Supplies.*—Supplies of rice, flour, vegetables, fish, chickens, ducks, and pork are obtainable in large quantities. Water is obtained from wells and also from canals, and is fit for consumption after boiling.

*Transport.*—Boats form the only means of transport. There are no wheelbarrows. Most of the boats are to be found in the eastern and western suburbs. Several hundreds of ordinary passenger and cargo-boats can be found here as a rule, but not the large passenger-boats towed by launches.

*Government.*—Kashan is a town of the Hsien class subordinate to Kashing. There was no garrison in 1909, but a few men were kept for police purposes. There were no foreign residents.

*Communications.*—For a few months in the year, when the water is high, usually in the autumn, launches pass through Kashan on the way from Shanghai to Kashing. For the rest of the year the launches take a more northerly route, passing however, within a mile of the western suburb. Passengers are conveyed by boat to meet the launch via a creek a mile long (and itself passable for launches) which goes northward from the western end of the western suburb. Launches could, however, come at all times of the year from Kashing into the western suburb and within  $\frac{1}{4}$  mile of the West Gate. From the Shanghai direction launches would always get to Chang-ching-hui, 3 miles distant, and could usually at high tide get into the eastern suburb.

There are post and telegraph offices at Kashan. The Shanghai-Hangchow Railway has a station here a short distance outside the NW. corner of the city.

*Distances from Kashi*

		miles	
West Gate to Shanghai	by water	52 $\frac{3}{4}$	Route 3 B
East Gate	"	51 $\frac{3}{4}$	" 3 B
To Kashing	"	10 $\frac{1}{2}$	" 3 B
Shanghai	rail	44 $\frac{1}{4}$	" —
Hangchow	"	68 $\frac{3}{4}$	" —

**KASHING** (Chekiang). (See Plan)

Approximate { Latitude, 30° 43'.  
Longitude, 120° 40'.  
Height, sea-level.

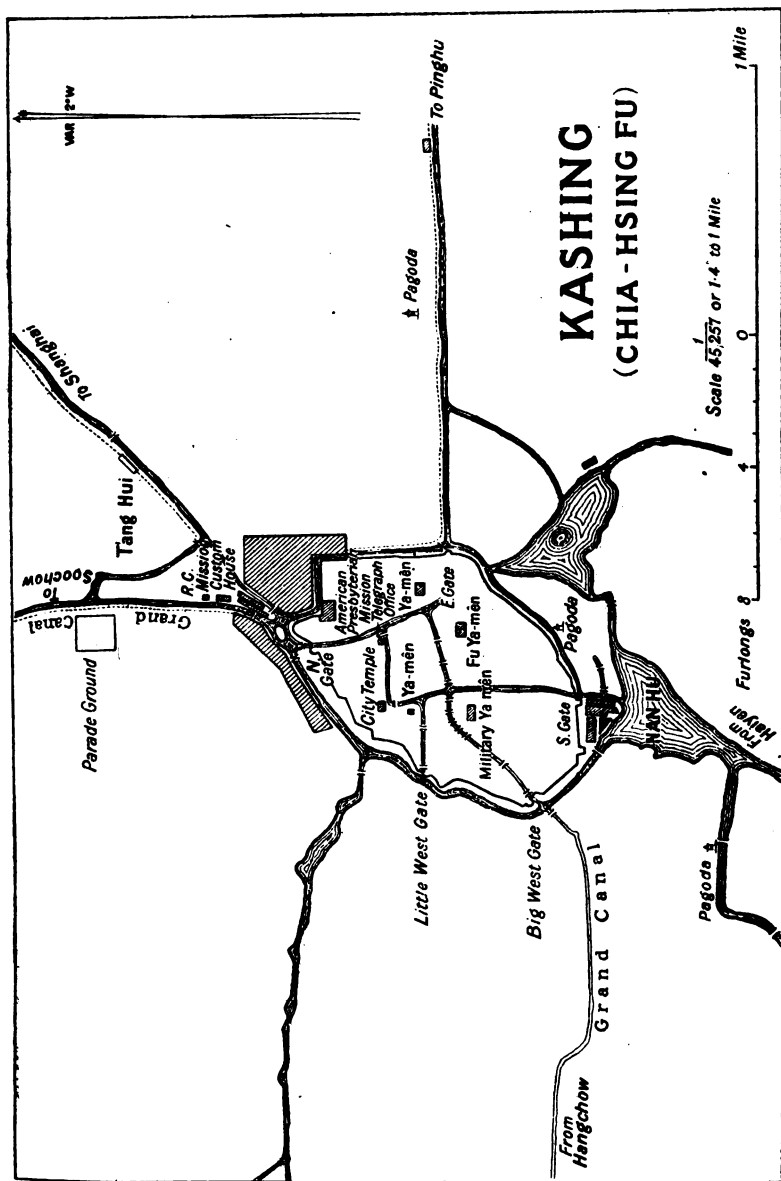
*Authority*: mainly Military Report on the Province of Kiangsu (South), 1909.

**Kashing**, or Chia-hsing-fu (Wade), is a flourishing city of 60,000 inhabitants, situated in Chekiang at the junction of the Shanghai-Hangchow Railway and the Grand Canal.

The city is of irregular shape, about 3 $\frac{1}{2}$  miles in perimeter, and is surrounded by a wall about 25 ft. high and 2 ft. thick, the lower part of which to a height of 6 to 9 ft. is of stone, the upper part of brick. The wall is backed up on the inside by a masonry and earth bank averaging 10 to 12 ft. thick and 5 or 6 ft. lower than the wall; this bank is faced with brick inside so that its inner face is perpendicular. The top of the bank is therefore not accessible from the inside except by steps which lead up to it at the gates, and by a few paths where the brick facing has tumbled down. The wall is topped by a brick parapet 5 ft. high and 2 ft. thick.

All round the wall, at a distance which varies from 20 to 50 yds., is a navigable waterway, which forms a moat. This varies as a rule from 30 to 50 yds. in width, but on the western side, where it is formed by the Grand Canal, it is 100 yds. wide, while at some of the bridges, notably at the North and East Gates, it narrows down to 10 or 15 yds. in width.

There are five gates, called the North, East, South, Great West, and Small West Gates. The four first are protected in



front by a wall similar to the city wall, thrown out so as to enclose a space about 30 yds. square, this enclosure being entered by a side gate. At the North Gate the side entrance is in the west side of the enclosure, at the East Gate it is in the south side, at the South Gate it is in the west side, at the Great West Gate it is in the south side. Each of these gates has a water-gate alongside of it by which boats can enter the town.

The Small West Gate is intended principally as a water-gate, but there is also a footpath leading in through the same arch that forms the water-gate under the wall.

The moat is bridged at each of the gates except at the Small West Gate. Inside the wall there are considerable open spaces in the southern and eastern parts of the city, but the northern part is well built over. The main market street is that which leads from the North Gate. There are two large suburbs, one outside the North Gate and the other outside the South Gate. The former is the larger and forms an important commercial quarter of the place. The large firms and wealthy merchants are found mostly outside the walls. These deal largely in rice, beans, and oil. Kashing also exports a large number of barnyard fowls and ducks, besides eggs and egg products.

*Surroundings.*—The surroundings of the city are to some extent shown on the plan, but between the large waterways there is a network of shallow canals and creeks, many of them impassable except by bridges. The country is perfectly flat, with scattered houses, plantations of small trees, and gardens. The most favourable direction from which to attack the city would be through the northern suburb, where the houses would afford cover right up to the North Gate.

*European residents.*—The Customs staff live in the Customs buildings at the northern end of the north suburb. Immediately north of this is the Catholic Mission in which live the French priests. There is a branch of the American Presbyterian Mission (Southern) inside the city near the NE. corner. Total number of foreign residents is about 20.

*Supplies.*—Supplies of such things as pork, fish, rice, flour, and vegetables are obtainable in large quantities. Water is from wells and from the creeks and canals. It is fit for consumption after boiling.

*Transport.*—Boats are almost the only form of transport used. Several hundred boats of various sizes and descriptions are always to be found at Kashing. Four Shanghai launch companies have offices in the northern suburb. Wheelbarrows do not exist.

*Government.*—Kashing prefecture was subordinate to the Tao-t'ai of Hangchow. In the city were the headquarters of two Hsien districts—Kashing and Hsin-shui. The following Hsien districts were also under Kashing: Kashan, Haiyen, Shihmen Che, Pinghu, and Tunghianghsien. There was a garrison of old-fashioned troops commanded by a Hsieh-t'ai (Colonel).

*Communications.*—Previous to the opening of the railway all travelling was done by boat. There are waterways navigable by steam-launches leading to Shanghai, Soochow, Hangchow and Siashih.

To Shanghai the launches go through Kashan when the water is high enough, as is usually the case in autumn. When the water is low they take a more northerly route, leaving Kashan a mile to the south.

To Soochow and Hangchow the launch route follows the Grand Canal. Occasionally, at exceptionally low water, the Grand Canal is too shallow for launches between Kashing and Hangchow. They then have to go northward up the Grand Canal to Pingwang, and thence by a more westerly creek, rejoining the canal at Wu-li-t'ou or at Tangsi, a few miles north of Hangchow (see Route 1 B).

Though roads are very little used for travelling, a road passable for horses runs along the bank of the Grand Canal to Soochow. Southwards this road continues to Shihmen Che, where it leaves the Grand Canal, turning south to Changan, and thence following the Haining Canal to Hangchow.

There are post and telegraph offices in Kashing, inside the walls.

The Shanghai-Hangchow Railway has a station a short distance east of the city wall.

*Distances from the North Gate of Kashing*

		miles	
To Shanghai	by water	63½	Route 3 A
"	"	"	3 B
"	alternative routes	75 and 67	3 C and 3 D
Kashan	by water	10½	3 B
Soochow	"	39	1 A
Shimen Che	"	27½	1 A
Hangchow Settlement	"	57¾	1 A
Hangchow City.	"	63¼	1 A
Pinghu	"	17½	3 C
Chapu	"	25½	3 C
Shanghai	by rail	56	
Hangchow	"	57	

**KIANGYIN.** (See Plan)

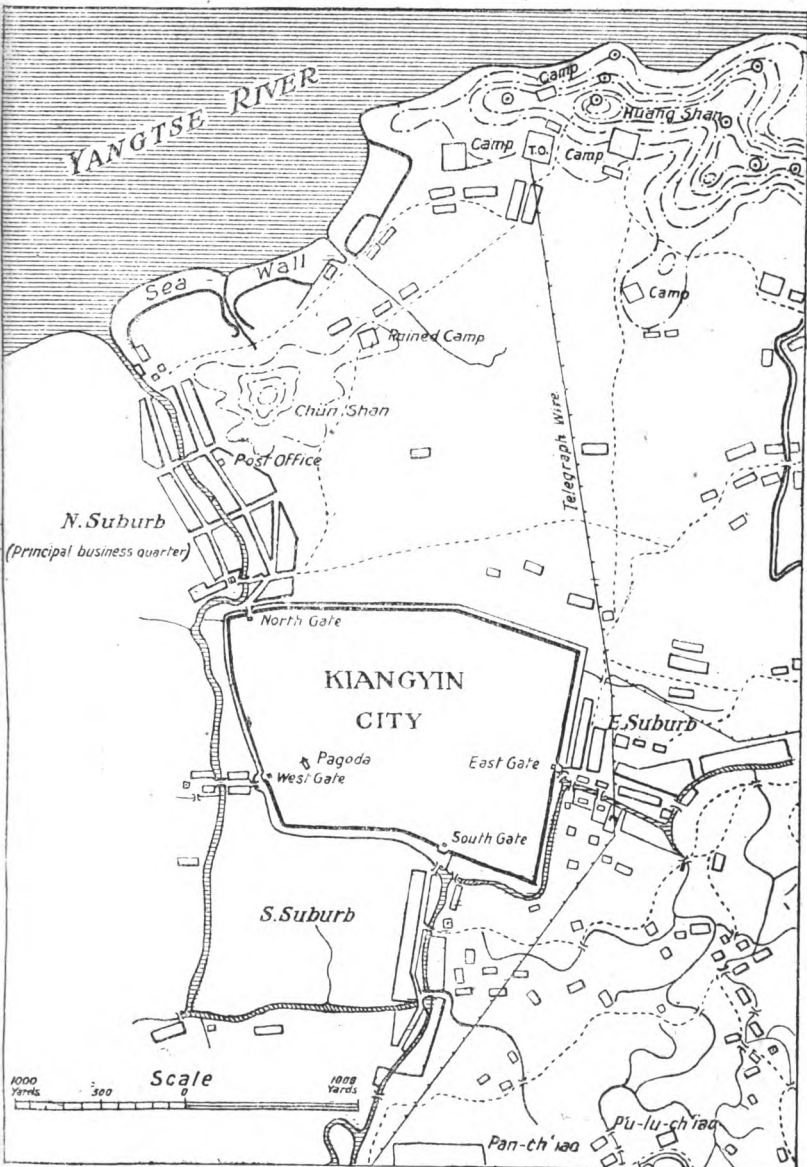
Approximate { Latitude, 31° 52'.  
Longitude, 120° 19'.  
Height, 50 ft.

*Authority:* mainly Military Report on the Province of Kiangsu (South), 1909.

**Kiangyin**, locally called Kang-yin-yüen, is a walled city of quadrilateral form situated near the south bank of the Yangtse. The walls are about 25 ft. high, 3½ miles in perimeter, in fair repair, and are surrounded by a moat 5 to 20 yds. wide and 2 to 12 ft. deep according to the tide and season. There is a tall and conspicuous pagoda in the city. There are extensive suburbs outside the East, South, and North Gates, that outside the North Gate being the principal business quarter of the city.

Kiangyin is a well-known entrepôt for rice and is reached

# KIANGYIN





after passing a narrow channel only a mile wide into which the river here contracts owing to a cluster of hills projecting from the S. bank. The hills north of the city are fortified against an up-river advance and Kiangyin is a military station of some importance. There are also some forts concealed by the trees on the opposite side of the river, near Yin-sha. The creeks leading from the Yangtse to Kiangyin are usually crowded with junks.

The surrounding country is a flat plain intersected by numerous waterways, but with irregular ranges of hills all under 1,000 ft. high, to the north, east, south, and south-west of the city, at a distance from it of  $\frac{3}{4}$  to 5 miles.

The American Presbyterian Mission, South, has a station at Kiangyin. There are waterways leading SE. to Changshu Ku, S. to Wusih, and SW. to Changchow Ku. There is a wooden landing-stage in the Yangtse at Kiangyin, but it is under the cross-fire of two batteries. The stopping-place for river steamers is on the opposite bank of the Yangtse.

There is a post and telegraph office at Kiangyin. The cable from Shanghai to Peking crosses the Yangtse at Kiangyin.

*Distances from Kiangyin*

		miles	
To Changshu Ku	by water	40	Route 13
Wusih	"	23	" 14
Changchow Ku	"	24	" 15
Shanghai	"	105	
Chinkiang	"	60	

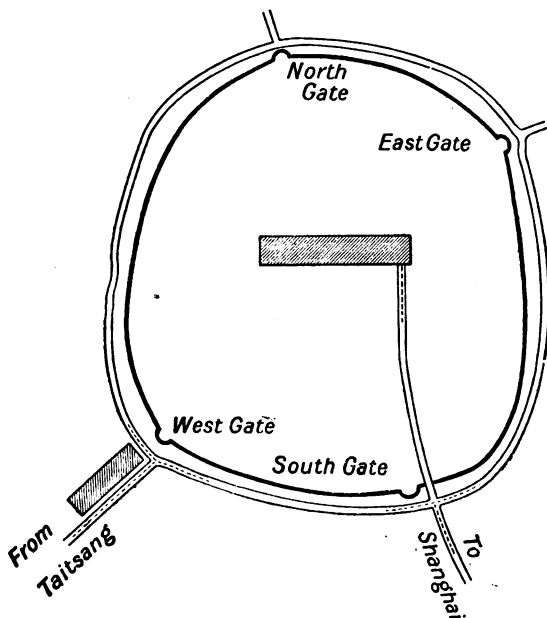
**KIATINGHSIEN.** (See Plan)

Approximate	{ Latitude, 31° 22'.
	{ Longitude, 121° 17'.
	{ Height, sea-level.

*Authority* : Military Report on the Province of Kiangsu (South), 1909.

**Kiatinghsien**, locally pronounced Ka-ting-yüen, is a walled city of the usual type. The walls are about 20 ft. high, 4 miles

# KIATINGHSIEN.



Sketch Plan. Dotted lines in canals show where boats are likely to be found. Shading shows business quarters.

in perimeter, in fair repair, and are surrounded by a moat 10 or 15 yds. wide and 2 to 8 ft. deep. There is an extensive suburb on the north, and small suburbs outside the other gates.

The surrounding country is a flat plain intersected by waterways.

There is a post office.

*Distances from Kiatinghsien*

		miles	
To Shanghai	by water	25	Route 7 D
Taitsang	,,	17	,, 7 D

**KUNSHAN.** (See Plan)

Approximate	{ Latitude, 31° 21'.
	{ Longitude, 120° 59'.
	{ Height, sea-level.

*Authority*: mainly Military Report on the Province of Kiangsu (South), 1909.

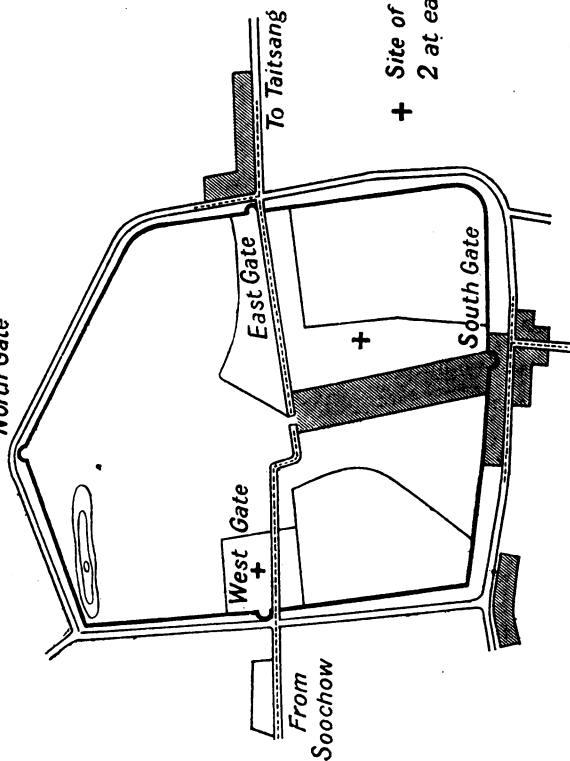
**Kunshan**, locally pronounced K'un-sän-yüen and by Europeans called Quinsan, is a walled city of the usual type. The walls are about 20 ft. high and 4 miles in perimeter: they are in bad repair, and are surrounded by a moat 10 to 60 yds. wide and 2 to 15 ft. deep. Inside the city, near the NW. corner, a steep hill rises to a height of about 270 ft., and is surmounted by a pagoda. It is the only eminence for many miles round, and its top forms a commanding position from which good views can be obtained in all directions. This hill could be easily defended, and the temples on its summit and sides and at its bases would give accommodation for about 1½ battalions. There is no water on the hill itself, but there is an ample supply in the creeks at its foot.

Kunshan lies in the middle of a flat plain intersected by numerous waterways.

*Communications*.—Kunshan is served by numerous launch routes—to Soochow, Changshu Ku, Taitsang, and Shanghai, and by the Shanghai-Nanking Railway.

# KUNSHAN.

North Gate



+ Site of Official Granaries.  
2 at each place

Sketch Plan. Dotted lines in canals show where boats are likely to be found. Shading shows business quarters.

The railway station is situated  $1\frac{1}{4}$  miles south of the city. There is a post and telegraph here.

*Distances from Kunshan*

		miles	
To Changshu Ku	by water	25	Route 9 B
Shanghai	,,	48	,, 5 B
,,	rail	31.95	,, —
Soochow	water	20	,, 5 B
,,	rail	21.52	,, —
Taitsang	water	8	,, 5 B and 7 A

**KÜYUNG**

Approximate { Latitude,  $31^{\circ} 55'$ .  
Longitude  $119^{\circ} 8'$ .  
Height, 100 ft.

*Authority* : Military Report on the Province of Kiangsu (South), 1909.

**Küyung**, or Chü-jung-hsien (Wade), is a walled city of the usual type, on the main road from Tanyang to Nanking. The walls are about 18 ft. high and 2 miles in perimeter. They are in bad repair, and are surrounded by a moat 10 yds. wide, of which the greater part is dry. There is ground as high as the walls nearly all round the city and within a few hundred yards. There are practically no extra-mural suburbs, nor are there any creeks flowing through the city. There is a post office here.

The surrounding country is rolling and somewhat broken, with very few creeks, and is generally passable for all arms.

*Distances from Küyung*

		miles	
To Nanking	by road	27	Route 17 B
Tanyang	,,	26 $\frac{1}{4}$	,, 17 B
Chinkiang	,,	43	,, 17 B

## LIYANGHSIEN

Approximate	{	Latitude, 31° 24'.
		Longitude, 119° 32'.
		Height, sea level.

*Authority:* mainly Military Report on the Province of Kiangsu (South), 1909.

**Liyanghsien** is roughly circular in shape. The main street goes from the East to the West Gate, crossing the canal through the centre of the city by a stone bridge. This street is about 1,100 yds. long. The city wall is about 25 ft. high, the lower part of stone repaired in places with bricks; parapets of brick. The wall is in good repair. The Wên-ting River, which flows from west to east, has been diverted, and forms a moat round the city with another channel through it, all three channels reuniting at the south-east corner of the city. The moat is about 20 yds. wide and 7 ft. deep, passing under stone bridges, about 11 ft. above water-level, opposite the four city gates. Channel through city passes through west and east water-gates, each about 14 ft. above level of water, with channel 12 to 15 yds. wide, and passes under one high stone bridge in centre of city and two low stone bridges (under 10 ft. above water-level) near east water-gate. The water-gates are about 900 yds. apart; and there is a three-storied pagoda above the east water-gate.

Apart from the two water-gates there are four city gates, the East Gate being in the north-east part of the city and north of the east water-gate, whilst the West Gate is in the south-west part of the city, south of the west water-gate. The city gates are defended by an outer semicircular bastion with a second gateway in the centre.

The city is thickly populated inside the walls, and there is a large suburb extending west and south. The streets are very narrow and dirty, the main street paved with slabs and very slippery in wet weather. The houses are of brick and stone with tiled roofs; a few of the poorer of mud with thatched roofs.

The district is chiefly given up to rice, with some mulberry plantations ; fishing is also a great industry. The inhabitants are mostly Kiangsu men, with a colony from Anhwei. The magistrate states that there are 4,000 houses in and around the city. They estimate six people to a house, which would give a **population** of 24,000.

Grass hills 500 to 800 ft. high, bare of trees, lie about 3 miles to the south-west ; higher ranges run from them in a southerly direction.

*Supplies.*—Shops are plentiful. Eggs are scarce.

There are no resident missionaries ; but there is a Catholic mission station.

*Transport.*—There are no carts, but there are a few wheelbarrows, and some people go by land to the Barriers, though the water route is the commonest. Two ponies and one donkey were seen in the city in 1908 ; donkeys are said to be plentiful in the hilly country farther south, but ponies and mules are said to be scarce. Water-buffaloes are plentiful in the surrounding country.

*Communications.*—A steam-launch runs regularly to Wusih, going one day and returning the next. About the end of November, 1907, a steam-launch was also started westwards from Liyanghsien to the Barriers (Tung-pa), and another north to Kintan Ku. There is a post and telegraph office.

*Distances from Liyanghsien*

	miles	
To Loshe	by water 62	Route 16
Wusih	„ 71	Routes 16 and 1 A
Ihing	„ 22½	Route 16
Hsia-tung-pa-chên		
(the Barriers)	„ 28¾	„ 16
Kaoshun	„ 41½	„ 16

**NANKING.** See *Place in separate list*

Latitude 32° 51'

Approximate Longitude 118° 49'

(Height 134 ft.)

*Authorities.* China Maritime Customs. Decennial Reports: Yangtze Yangtze River 1904. Eng. Japanese Cons. Official Guide vol. IV, 1905: Directory and Commerce for China, Aug. 1905: International China, vol. II, 1905, p. 74.

**Kiang-ning-ki**, popularly known as **Nanking** the southern capital and formerly officially called **Kiang-ning-chen**, is situated on the right bank of the Yangtze the nearest point in the wall being about 1,000 yds. from the river. Nanking was the capital of China from A.D. 475-589 and again for 25 years at the beginning of the Ming dynasty, viz. from 1368 to 1421. During this latter period the present walls were built. They vary from 31 to 71 ft. in height and have a length of about 24 miles with a thickness of 20 to 40 ft., making the largest walled city in China. The ancient city was much smaller and occupied the southern central part of the present enclosure. Under the last Manchu dynasty Nanking was the seat of the viceroy of the three provinces Kiangsi, Anhwei, and Kiangsu. In 1911 it was captured by the T'ai-ping rebels and was the headquarters of their chief Hsing Hsin-t'ien for 12 years. In 1912 it was taken by the revolutionaries who established there the provisional government.

The shape of the city is roughly triangular and it is practically surrounded by water in the form of river channels and lakes the only communication now being in the north region in the centre of the city side. At one time it is said to have contained three million inhabitants. On the ravages of the T'ai-ping rebellion and a almost complete and its recovery has been slow the present population being estimated at about 300,000. The northern part of the enclosure is mainly cultivated and interspersed with temples and graves and the extensive growth of old palaces, and the populous parts of



Nanking are confined to the south and south-west portions of the city.

The **port** of Nanking is Hsia-kuan (see below) on the right bank of the Yangtse, from which there are two main avenues of approach to the city. The first is the Kiang-ning or **City Railway** which starts from the river and runs for 8 miles to the southern part of Nanking. Crossing the north wall on the west side of the Chin-ch'uan-mên it runs south-east for  $\frac{1}{2}$  mile to San-p'ai-lou station: thence another similar distance to Ting-chia station, and 1,000 yds. on to Wu-liang-an station. From here it continues past the Drum Tower on the right, bending due east for  $\frac{1}{2}$  mile below the Chi-ming-ssü hill on the left, and then turning sharply south between the Wu-miao (temple) on the left and a large barracks on the right. It proceeds south for 2,000 yds. through the old Manchu garrison quarters, past the artillery barracks on the left to the Tu-tu-fu station which is opposite the civil governor's office on the right. Thence it runs straight SSW. for 2,000 yds. to the terminus at Chung-chêng-chieh.<sup>1</sup>

The second is the macadamized carriage-road called the **Ma-lu** which was built by the viceroy Chang Chih-tung in 1894. It runs from the Yangtse bank through Hsia-kuan, crossing the creek by a swing bridge and entering Nanking through the I-fêng-mên near the north end of the west wall. It then turns SE. past the cavalry barracks, the Naval Academy, the British consulate, and the Agricultural College, to San-p'ai-lou station, and thence along the west of the Kiang-ning Railway past the American and German consulates and the Diplomatic Bureau to the Japanese consulate beside the Drum Tower. Thence it continues past the Viceroy's Yamen to the boundary of the Tartar city and south to the T'ung-chi-mên in the south wall.

The chief entrance in the south is the Chü-pao-mên, from which a main street runs almost due north for about  $2\frac{1}{4}$  miles through the populous part of the city; and parallel to this

<sup>1</sup> This street is named Chung-cheng-kai in the accompanying plan, *kai* being the local pronunciation of the Pekingese *chieh*.

are three main avenues with a network of smaller streets between. The Chung-chêng-chieh runs at right angles to the main street. The southern half of the city is threaded by numerous small creeks.

The walls are pierced by 15 gates, nine of which are generally open. There are six on the west side, three on the south, two on the east, and four on the north. Near the west wall flows a branch of the Chin-huai River which empties into the Yangtse at Hsia-kuan. It serves as a moat, winding round the south wall as far as the T'ung-chi-mên where it turns SW., though the moat is continued by a creek round the SE. angle and part of the east wall. From the Ch'ao-yang-mên in the east wall to the T'ai-p'ing-mên below the Hsüan-wu Lake there is a gap in the water barrier about  $2\frac{1}{2}$  miles in length, only broken by two small lakes. Between these there is hilly country, the most prominent points in which are the Chung Shan, a commanding height outside the walls, and the battery hill Fu-kuei Shan within. The latter is continued in a hilly ridge westward as far as Wu-liang-an station along the southern shore of the Hsüan-wu Lake.

The Hsüan-wu Hu is a lake,  $2\frac{1}{2}$  miles long by  $1\frac{1}{2}$  at its widest part, which flanks the wall from the T'ai-p'ing-mên to the Shên-ts'ê-mên at the NE. corner.

Along the north side of the city creeks and small lakes form an almost continuous chain on the exterior; and at the NW. corner the wall encloses the Shih-tzû Shan or Lion Hill on which are a battery and signal station. From here to the Han-hsi-mên, or about two-thirds of the way down the west wall, extends an open hilly country, within the walls, with the Ch'ing-liang hill at its southern end. Half a mile north of this hill, and close to the Ts'ao-ch'ang-mên, is a powder-magazine.

The rectangular salient in the SW. and the triangle in the SE. corner are thickly populated. Above the latter are the ruins of the Ming-ku-kung, the palace of Hung-wu, with a walled enclosure about  $\frac{1}{2}$  mile square. The SE. corner of Nanking was occupied by the Manchu quarters which were

sacked and burned in the revolution in 1911. The open ground north of this, extending from the walls on the east to the railway on the west, is devoted to the military, and includes infantry, artillery, and engineers' barracks, the military primary school, exercise grounds, and the Fu-kuei Shan battery. Between the Hsüan-wu Lake and the railway the ground is open and studded with pools and creeks; and NE. of San-p'ai-lou station is the racecourse and public park. A prominent landmark near the SW. end of the Hsüan-wu Lake is the Pei-chi-ko, a hall and pagoda on the Chi-ming-ssü hill, and formerly the site of an observatory under the Yuan and Ming dynasties.

Nanking enjoys a moderate **climate**, with 20 days' less rainfall than Shanghai. The rainy season comes on between April and May. Much has been done under the Republic to improve the city by building new roads and repairing the drainage. There is no water system, and, as the well-water is salty, drinking-water is obtained by filtering the river water, which should be used with the greatest caution.

The chief **industry** of Nanking is satin-weaving. The commerce of Nanking has been relatively small hitherto, most of the foreign trade being in the hands of the Shanghai merchants. It is probable, however, that in the future Nanking's commercial importance will be enormously increased, owing to its favourable geographical position and improving communications. It is accessible to the largest ocean-going ships at all times of the year. It is conveniently situated for the traffic of the Yangtse and its tributaries, for that of the Grand Canal, and through it that of the Huai River system. But it is chiefly to improved railway facilities that Nanking will look for her future prosperity. The Shanghai-Nanking Railway and the Tientsin-Pukow Railway are already working. The survey of a third line from Nanking to Changsha has already commenced, which will link up Nanking and Shanghai with the Canton-Hankow Railway. This line will be known as the Ning-Hsiang Railway. Other projected lines, the Lanchowfu-Haichow Railway and the

Pukow-Sinyangchow Railway, should make Nanking the most important railway junction in Central China and bring to it the important trade of Shansi and Honan.

Nanking is a great literary centre. The government schools and colleges train a large number of candidates for the civil and military services. The civil schools at Nanking include a normal school, a college, a school of agriculture, a polytechnic, a middle school, a police training-school, and a law school and several missionary institutes, for which see below, p. 482.

The arsenal and powder-mills are situated just outside the South Gate.

Nanking was opened to foreign trade in 1899.

*Surrounding country.*—The Yangtse curves in a north-easterly direction past the NW. corner of Nanking, at which point it is about 1,000 yds. from the city wall. The river is here about 1,200 yds. wide and very deep. There are no bridges and the connexion with Pukow, on the left bank, is kept up by a ferry. Above and below Nanking there is an island in the river, and a third island is formed along the west side of the city by a fork in the Chin-huai tributary. Apart from these islands the country round Nanking on the right bank of the Yangtse is undulating agricultural land, with stately ranges of hills rising from it. To the north of Nanking stretch the North Mountains rising to 600 ft. The country between them and the city is covered with corn-fields and cotton-fields, tea and mulberry plantations, and fruit-trees. Communications are rendered difficult by woods and ravines as well as by lakes and ditches.

The most interesting of the hill ranges is Chung Shan (local, Tsung Shan) on the east, a granite hill about 760 ft. high, the outlying spurs of which are included in the city wall. At the SW. base of this hill are the famous Ming Tombs approached by the Spirit Avenue. Four rows of hills run southerly from Chung Shan and parallel to the eastern face of Nanking. They form deep valleys which would serve to cover an approach toward the town from the east. South-east of the city are

the East Mountains (780 to 930 ft.), of red sandstone and bare of vegetation. Between them and the city the country is flat, but the view is obstructed by dykes and numerous villages and trees. On the south is the southern group of hills, at a considerable distance, though the spurs run out to within a mile of the city, forming numerous valleys with copses and rice-fields.

*Roads.*—The ancient road from Pukow Ku north is now merely an earthen dyke about 20 ft. wide. Along the right bank of the Yangtse is a road and telegraph wire from Hsia-kuan to Wuhu, passing through Taiping An. It is flooded in parts at high water. Two roads on raised embankments, as it were leaving the city by the River and Tartar Gates (in S. and E. walls), join to make a serviceable road, the old Imperial Way to Soochow. For goods traffic the road to Chinkiang from the T'ai-p'ing Gate is the best. Other roads for local intercourse are narrow but in tolerable condition.

*Places of interest.*—There are numerous places of interest in and around Nanking, such as the Ming-ku-kung, the site of Hung Wu's palace, in the SE. of the city; the Ch'ao-t'ien-kung, a splendid temple near the Shui-hsi-mên; the ancient Imperial Tombs in the city; the Ming Tombs S. of Tsung Shan; the Mo-ch'ou-hu, the Lotus Lake outside the walls W. of the Shui-hsi-mên; and the site of the Porcelain Tower outside the South Gate.

*Port of Nanking.*—**Hsia-kuan**, on the right bank of the Yangtse, is the port and trading-quarter of Nanking. It is situated about 1,000 yds. W. of the NW. corner of the walls and is connected with Nanking by the City Railway and the Ma-lu road. Along the river front are the hulks connected by piers with the bank. There are several of these, belonging respectively to Jardine, Matheson & Co.; the Chinese Merchants Co.; the Norddeutscher Lloyd SS. Co.; the Chinese Governor; Messrs. Butterfield & Swire; and the Japanese Nisshin Kisen Kaisha. Between the third and fourth hulk is a small pontoon used for the ferry service from

Nanking to Pukow Ku. Abreast of the Japanese hulk is a stone bund running about 700 ft. southwards. There is also a pier, for the benefit of the Tientsin-Pukow Railway ferry, about a mile north of Hsia-kuan, which is connected by a short branch line with the **Shanghai-Nanking Railway**. The pier station is called Kiang-pien.

Nanking station is on the east side of Hsia-kuan, and alongside it is Hsia-kuan station, through which the City Railway runs to Chiang-k'ou on the river bank at the south end of Hsia-kuan. The customs-house, the head post office, the Chinese telegraph office, and the German post office are in Hsia-kuan, and there are three hotels kept by British, German, and Japanese owners respectively. In July, 1913, during the military outbreak, Hsia-kuan was burnt; but advantage has been taken of this disaster to widen existing streets and build new ones. The shipping returns for Nanking in 1915 show a total tonnage entered and cleared of 7,084,998 tons, of which about 50 per cent. was British.

*Supplies.*—Nanking is in the centre of a great agricultural district which produces tea, rice, wheat, oats, beans, and peas. Large flocks of ducks are kept by the farmers along the banks of the canal, and these birds, preserved in salt, are an item of export. There is abundance of fish. Fresh beef, bread, and vegetables can be obtained, and large quantities could be supplied at short notice. Forage is scarce, but good grazing ground exists on the hills. A supply of coal can be obtained; but the Chinese burn wood, brushwood, reeds, and charcoal.

*Transport.*—Carriages are available on all the main streets of Nanking, and ricksha throughout the city. Donkeys are much used by natives for travelling in the country. Wheelbarrows could be obtained in large numbers.

Boats of all kinds are available on the Yangtse. For railways see *Communications*.

*Government.*—The civil governor's office and Civil Administration Bureau is situated opposite the Tu-tu-fu station, and about a mile SW. of it is the military governor's office. The

police office is San-fang-hang, in the centre of the south-western quarter of the city, and close to it is the High Court of Justice. There is a large police force organized on modern lines.

There is a very large garrison of northern troops maintained in Nanking.

*Foreign Residents.*—The proposed foreign settlement has been marked out along the right bank of the Yangtse outside the I-fêng Gate, but at present it has proved too unhealthy for occupation, and nearly all foreigners reside within the walls. The consular reports for 1915 give the number of British residents in Nanking and Pukow Ku as 170 ; there were 150 Japanese at Nanking in 1914 ; and returns for 1912 gave 150 Americans, 82 Germans, and 2 Frenchmen. There are British, American, Japanese, and German consulates along the Ma-lu in the northern part of the city.

Missionary returns give 51 men and 77 women Protestant missionaries in Nanking in 1913, and the missionary institutes include Nanking University, School of Theology, four girls' schools, a college, and a middle school. The University was opened by the Central China Mission of the Methodist Episcopal Church in 1888. There is a Roman Catholic Mission. The hospitals include a branch of the Shanghai Red Cross Hospital, American and Japanese hospitals, and a Methodist hospital.

*Communications.*—Nanking enjoys a variety of communications. There are roads running in various directions (see note on *Roads*). They are mostly unsuitable for heavy transport, though the country in the immediate neighbourhood is practicable for all arms. The Yangtse steamers call at Hsia-kuan, and water communication exists along the Yangtse and its tributaries, and through the Grand Canal and thence into the Huai River system. The chief Yangtse steamship lines are : Indo-China Steam Navigation Co. ; Butterfield & Swire ; Geddes & Co. ; Norddeutscher Lloyd ; Nisshin Kisen Kaisha ; and China Merchants' Steam Navigation Co.

Besides the Nanking City or Kiangning Railway running

between Hsia-kuan and the city on a standard gauge line 8 miles long, there is the Shanghai-Nanking Railway running through Chinkiang and Soochow to Shanghai, a distance of 193 miles, and the Tientsin-Pukow Railway which connects with the Shantung Railway to Tsingtau at Tsinan.

Other projected railways will link up Nanking with the Peking-Hankow and Canton-Hankow lines, and with the mineral districts of Honan and Shansi, see Chap. IX, railways IX, XIII, &c.

The head Chinese **post office** is located in Hsia-kuan, where there is also a Japanese and a German post office. The Chinese telegraph office has a branch at Hsia-kuan and another at Ku-lou in the city. There is a telephone service under Chinese management, the plant of which was acquired in 1914 by one of the Chinese staff of the German firm, Siemens & Co. There is a wireless station near the civil governor's office, operating by the Telefunken system.

*Distances from Nanking*

		miles	
To Chinkiang via Kaotze	by land	42	Route 17 A
Chinkiang via Tanyang	"	70	" 17 B
Tanyang	"	16½	" 17 B
Wuhu	"	53	" 18
Taiping An	"	41	" 18
Chinkiang	by the Yangtse	47	
Shanghai	"	212	
Wuhu	"	53	
Hankow	"	374	
Shanghai	by rail	193	
Chinkiang	"	43	
Soochow	"	140	
Süchowfu (from Pukow Ku)	"	211	
Tsinan	"	410	
Tientsin Central	"	628	

For other distances see Pukow Ku.



## PAOYING

Approximate { Latitude, 33° 14'.  
                  { Longitude, 119° 19'.

*Authority* : A. H. Hilton-Johnson, 1908.

Paoying is a walled city on the east bank of the Grand Canal, 78 miles north of the Yangtse River. Estimated population 10,000. The trace of the city is roughly circular. It is skirted on the W. and SW. sides by the canal, at a distance of about 50 yds. from the walls. The wall is under 2 miles in perimeter, and consists of the usual crenellated and loop-holed brick facing, backed on the inside by an earthen bank with a path on top of it accessible from the interior at any point. It is about 20 to 25 ft. high and in good repair throughout.

There are five gates, two in the south side and one in each of the others, called after the points of the compass. All these gateways are single, and have no protecting rampart thrown out from the wall in front. The entrances are low and narrow, and except in the case of the Hsiao-nan-mên (small south gate), which has only one, are furnished with double sets of heavy, iron-bound, wooden doors. They are surmounted by small gatehouses on the wall.

There are two water-gates, one in the south and one in the east wall. Other than the canal on the W. and SW. sides there is no regular moat.

The principal suburbs are those along the canal banks to the NW. and SW. of the city, containing over 1,000 houses. The interior is thickly built over and little open space exists. The houses are of brick, well built, and have tiled roofs. The city lies below flood-water level, and the same preventive measures are necessary in summer as those described in the case of Hwaiianfu.

*Surrounding country*.—See under Hwaiianfu.

*Supplies*.—See under Hwaiianfu, but the supplies obtainable here would be less in proportion to size.

*Transport.*—See under Hwaiianfu; but the numbers of boats and wheelbarrows available would here be about 100 and 300 respectively.

*Government.*—Paoying is a *hsien* city dependent on Yangchow, which itself is under the Tao-t'ai of Hwaiianfu. The chief official is the Chih-hsien (district magistrate) whose *yamên* is inside the North Gate. There were about 60 police in the city, but no garrison.

*European Residents.*—There were no resident foreigners.

*Communications.*—See under Hwaiianfu; there is a post office and telegraph office.

*Distances from Paoying (West Gate)*

		miles	
To Hwaiianfu	by water	22½	Route 19 (1)
Tsingkiangpu	„	31	„ 19 (1)
Kaoyuchow	„	34½	„ 19 (1)
Yangchow	„	66	„ 19 (1)
Chinkiang	„	80½	„ 19 (1)

**PINGHU** (Chekiang)

Approximate	{	Latitude, 30° 42'.
	{	Longitude, 121° 0'.
	{	Height, sea-level.

*Authority:* Military Report on the Province of Kiangsu (South), 1909.

Pinghu, called locally Ping-wu-yüen, is a city in the north-eastern part of Chekiang.<sup>1</sup>

The city is of irregular shape and is surrounded by a wall. The wall varies from 20 to 30 ft. in height, and is built of stone up to about 8 ft., whilst the upper part is of brick. It is backed by a bank, 10 to 20 ft. thick, and revetted with brick on the inside. Steps lead up on to the bank from each gate, and there are many places where the revetment has broken down and the bank has become accessible from

<sup>1</sup> Included in this volume for convenience.

the inside. All round the outside wall is a navigable waterway forming a moat. This moat varies from 5 to 30 yds. in width, and is on an average 30 to 40 ft. from the wall. There are five gates—the North, East, Great South, Small South, and West Gates ; at each of these the moat is crossed by a bridge. The Great South Gate and the East Gate are protected by a semicircular wall enclosing a space in front of them. The Small South Gate and the West Gate are not so protected ; the North Gate has not been inspected. At each of the two South Gates the bridge across the moat is 15 ft. long, of wood, on stone abutments.

Inside the city there are large open spaces in the western part, but the eastern part is fairly well built over. Outside the West Gate there is a small suburb stretching along the creek leading to Kashing. Outside the east face of the city there is a large suburb reaching to the waterway which connects Pinghu with Shanghai. Altogether there are said to be 1,200 houses in Pinghu, of which probably half are in the eastern suburb, which is the main commercial quarter. The population is about 8,000.

*Surroundings.*—The country round Pinghu is perfectly flat, highly cultivated, full of farms and villages, and much cut up by creeks. On the east and south-east, distant 150 to 300 yds. from the city, is a sheet of water 150 to 250 yds. wide, from which branch off creeks to Shanghai, Chapu and Kashing.

*Supplies.*—Supplies are to be got in considerable quantities in the form of rice, flour, vegetables, chickens, ducks, fish, and eggs. There is a good deal of timber in the shape of rafts on the broad waterway to the east of the town. Water is obtained from wells and also from creeks and canals. It is fit for consumption after boiling.

*Transport.*—There are two steam-launch companies' offices—the Wo-sing Company (Chinese) near the East Gate, and the T'ai-t'ou (Ta-tong) Company (Japanese) just north of a three-arch stone bridge which crosses the waterway to Shanghai at the northern end of the eastern suburb. One

launch should usually be found at Pinghu, as the two companies each run one launch to Shanghai on alternate days. Several hundred boats of different sizes could always be found at Pinghu. Boats are the only means of transport. There are no wheelbarrows.

*Government.*—Pinghu is a *hsien* city under Kashing. The military mandarin was a *Shou-pei* or captain, with a handful of soldiers for police purposes.

*Communications.*—Launches run daily between Pinghu and Shanghai. There is also communication, by boats up to 3 ft. draught, with Kashing, Haiyen and Chapu, but launches do not run to these places. There are post and telegraph offices in the city.

*Distances from Pinghu*

		miles	
To Shanghai	by water	55½	Route 3 C
Kashing	„	19¾	„ 3 C
Chapu	„	8	

**PUKOW KU**

Approximate { Latitude, 32° 8'.  
                  { Longitude, 118° 4'.

*Authorities:* Imp. Japanese Rlys., Official Guide, vol. iv, 1915; Yangtse Kiang Pilot, 1914; Directory and Chronicle for China, Japan, &c., 1916.

Pukow Ku is a new port on the left bank of the Yangtse, opposite Hsia-kuan. It was opened to foreign trade in July, 1915, as a branch office of the Nanking customs. As the terminus of the Tientsin-Pukow line it is a place of growing importance. It is connected by ferry with Hsia-kuan; but has itself three piers and four hulks alongside which there is sufficient water at all seasons for ocean-going steamers. The piers are 300 ft. long, and two of them have cranes. There are warehouses, restaurants, inns, and freight agencies at the port, and the Chinese Government has recently sanctioned

considerable expenditure on structural improvements. The old town of P'ü-chên is  $2\frac{1}{2}$  miles WNW. of the port. There is a post and telegraph office.

*Distances from Pukow Ku*

		miles	
To Yangchow	by water	$57\frac{1}{2}$	Route 36 A
Yangchow	by land	about 61	„ 36 B
Yangchow via the	by land		
San-ch'a Ho	and water	„ $61\frac{1}{2}$	„ 36 C
Linhwaikwan	by land	„ 98	„ 37
Linhwaikwan	by rail	„ $93\frac{1}{2}$	
Chuchow An	by land	„ $33\frac{1}{4}$	„ 37 A
Lüchowfu	„	„ $109\frac{1}{4}$	„ 38
Hochow An	„	„ 36	„ 39
Süchowfu	by rail	211	
Tientsin Central	„	628	

**SHANGHAI** (see Plan and Map No. 4 in separate case)

River Access and Harbour—British and French Settlements—The Native City—International Settlement and Hongkew—History—Population—Food Supply—Hygiene—Weather and Climate—Defence—Police—Volunteers—Fire Brigade—Government and Finance—Public Institutions—Communications—Railways—Waterways—Tramways—Industries and Manufactures—Trade and Commerce.

Shanghai (lat.  $31^{\circ} 15' N.$ , long.  $121^{\circ} 29' E.$ ), the most important of the treaty-ports and the commercial capital of the Chinese Empire, lies in the south-eastern corner of the province of Kiangsu. It is situated at the confluence of the Woosung river (Soochow creek) and the Huang-p'ü (Whampoo), twelve miles above the port of Woosung, where the united streams debouch into the lower estuary of the Yangtse. If geographical considerations alone had determined the boundaries of the eighteen Chinese provinces, the alluvial peninsula on which Shanghai is situated would never have been included in the province of Kiangsu. In fertility of soil, advanced agri-

culture, density of population, number of great and wealthy cities, and skill and hand-craft of its inhabitants, the peninsula has nothing in common with the remainder of the province which runs northwards from the great river to the Shantung borders. From every point of view the two portions of the province are in marked contrast.

South-eastern Kiangsu is an alluvial gift of the Yangtse : the river visibly continues to deposit silt and detritus at an estimated rate of two square miles per annum, and is at the same time steadily raising the ocean-floor over an area of hundreds of square miles. Roughly speaking the sub-province is a triangular peninsula, bounded on the north and north-east by the Yangtse, and on the south and south-east by Hangchow bay. The peninsula resembles Holland in its origin and main physical features ; it is virtually water-logged, and only by great hydraulic engineering works has it been reduced to the service of man. There are few elevations ; 15 to 20 miles distant from Shanghai hillocks attain a height of less than 250 ft. in the Fêng-huang Shan ; they are doubtless the summits of what was an island or islands in the Yangtse some centuries back. As examples of the vagaries of the peninsular rivers, we may mention the change of character in the two streams which most intimately concern the topography of Shanghai : the Woosung river, within a well-known historical period, was quite a considerable stream with abundance of water and great scour ; it is now with difficulty maintained by artifice as a creek for very small vessels ; while its neighbour, the Huang-p'ü, now apparently a natural river of great volume, originated in a mere canal for drainage purposes.

#### *River Access and Harbour*

In 1843, when Shanghai was first opened to foreign trade, the Huang-p'ü had a width of 2,000 ft. at low water in the harbour, that is, opposite the settlements. Embanking, wharf-making, and the steady accretion of silt have now greatly reduced this breadth ; and the river has, during

the last half-century, been no exception to the rule that all rivers traversing alluvial country make chronic efforts to destroy themselves. So apparent did this become that the trade interests took alarm, and after the political *débâcle* caused by the Boxer rebellion in 1900 they succeeded in overcoming the inertia of the local and metropolitan officials and in establishing a River Conservancy Board.

**The Huang-p'u Conservancy.**—The constitution and powers of this body were far from ideal ; the aim was to make a river authority on the model of that formed for the Port of London, but the actual result was one of those compromises so dear to the heart of the Chinese official. The Chinese official has some reason for regarding bars, shoals, and Nature's impediments as heaven-sent gifts with which he may circumvent foreign aggression, and he has little or no zeal for their removal ; the native trading classes, on the other hand, see eye to eye with the foreigner in these matters. A reactionary viceroy at Nanking, one Chou Fu, was made the medium of resistance in the case of improving the Huang-p'u ; with great plausibility he admitted both the need of river improvement and his own bounden duty to bear the expense of the same. He undertook to conserve and to control the river under the skilled advice of a foreign engineer over whose appointment the foreign interests would have a vote. The 'interests' referred to succumbed to the gift ; and, delighted to escape the fiscal burden, which as beneficiaries they had fully expected to share, they accepted the viceregal scheme.

**Operations of Mr. De Rijke.**—Mr. De Rijke, a Dutch engineer of the highest professional standing, who had done good work in Japan and who had been consultant to the foreign merchants and the Shanghai municipality when they first broached the subject, was appointed engineer-in-chief in 1906 to work under a board consisting of the Shanghai Tao-t'ai and the Commissioner of Marine Customs. Roughly speaking, Mr. De Rijke's plans involved the removal of an inner and outer bar and the replacing of a very congested and dangerous fairway by a wider, deeper, and more easily navigable channel. The

scheme involved huge dredging operations and large land reclamations. Mr. De Rijke proceeded with the work and continued for four years, subjected during the whole period to covert opposition from the Chinese. Still good work was done ; the outer bar was attacked by deviating the river's scour by means of a concave jetty or mole from the left bank to the deep water, while the inner obstruction was avoided by diverting the channel ; training works, fascines, and dredging were undertaken on a large scale. The dredging alone involved the removal of between eight and nine millions of cubic yards of deposited silt.

The general result was a very marked amelioration in the navigable channel. In May, 1909, the British cruiser *Astrea*, drawing 23 ft., passed up the new channel without difficulty ; and in the following July the fairway was opened for general traffic, and it has been maintained ever since. The long vexatious delays at Woosung, which often detained light-draught coasters as well as the larger ocean-going steamers, are now largely a thing of the past. The year 1910 saw the major dredging and land reclamations completed, and the closing of the old ship channel, both above and below Gough Island ; but it also revealed the imperative need of further measures, if the amelioration was to be maintained and made progressive. The Chinese authorities now stated that their funds were running out, and the hidden opposition already referred to came to a head. The time synchronized with the conclusion of Mr. de Rijke's contract, and he and his staff refused to go on and returned to Europe ; but only after their scheme and its results had secured the approbation of three of the most eminent consultant engineers (British) in the profession, from whom the Shanghai Chamber of Commerce had invited an independent report.

**Mr. von Heidenstam.**—It was impossible that a great scheme like this should remain in a state of suspense. With the approval of the foreign authorities Mr. H. von Heidenstam, of the Swedish Royal Engineers, was appointed to direct affairs, and the staff was reorganized on a smaller scale. Extensive dredging



at Pheasant Point and in the northern section of the Astrea Channel (also known as the Junk Channel) has met the more urgent needs ; but for a time the more ambitious aims of the engineering and trade interests have been in abeyance. The Maritime Customs Trade Report for 1915 (the latest information available to us) summarizes the position on December 31, 1915, as follows :

**Condition of the Navigable Channel in 1915.**—The latest surveys of the Huang-p'u under direction of the engineer-in-chief of the Huang-p'u Conservancy Board show that the depth of water in the channels has been well maintained, and this is supported by the fact that vessels on a 29-foot draught of water pass in and out of the port quite safely.

The following figures on the Astrea Channel, over the crucial portion of the navigable stream, are significant :

	ft.	in.
Highest high-water (July 28, 1915)	32	9
Lowest high-water (Feb. 24, 1915)	22	1
Highest low-water (July 28, 1915)	28	2
Lowest low-water (Jan. 12, 1915)	18	0
Average high-water	27	5
Average low-water	20	8
Average range	6	9½

The above depths are for the shoalest part of the fairway, i.e. along the line of the buoys ; for the centre of the fairway it would be about right to add 6 to 7 ft.

While on this subject it may be added that the largest Pacific mail-boats still lie off Woosung, and effect their passenger and cargo traffic by the help of tenders and lighters, of which the port has an abundance. The limited extent of the harbour accommodation and the danger and difficulty of manœuvring very large ships in a congested area and a strong tide-way, will probably be a permanent hindrance to the largest vessels coming up to the wharves. This remark would apply equally to deep-draught ' transports ' and armoured vessels ; but under the existing conditions of an abundance of tenders, tow-boats, steam-launches, lighters,

and flats, this would only involve very slight delay in the debarkation of a landing-force.

Woosung used to be fortified, and might on occasion have offered considerable resistance to an expeditionary force, but some years ago the guns were for the greater part withdrawn and the forts dismantled, and the town was declared a treaty-port. It now stands much in the same relation as Gravesend to London; passengers for the great liners sometimes prefer to go down by rail, and board their ship by steam-launch from the jetty.

### *The British and French Settlements*

An examination of the attached plan will elucidate the topography of the Shanghai settlements and native city more clearly.

**The British Settlement.**—The original British Settlement (1843) approximately coincided with what is now known as the Central District, and was roughly the area bounded by the Soochow Creek, the Huang-p'u river, the Yangkingpang and the Defence Creek on its northern, eastern, southern, and western sides respectively. This, the oldest part of the settlement, is still the commercial centre of the whole area; all the consulates, banks, insurance offices, the offices of the leading *hongs* (business concerns), the clubs, churches, and shops (foreign and native) are located in this area of less than one square mile. Posterity has never ceased to lament the short-sightedness of the early city-fathers for saddling it with narrow roads. No one in the early days foresaw that thoroughfares varying from 30 to 60 ft., quite adequate to the small trade of those days, would lead to serious congestion when the settlement developed into one of the great world-cities. At the time the roads were made they seemed preposterously large; now that tramways and motors have arrived, and have added to the congestion due to countless pedestrians, rickshas, native wheelbarrows, and pony

carriages, the result is a density of street traffic probably unsurpassed in the world.<sup>1</sup>

The cost of land is now so high as practically to prohibit the policy of widening the most congested roads. In 1913 the average value of land all over the International Settlement was Taels 9,636 per *mu* (Chinese acre), in the central district it averages Taels 34,706, and in one case a price of Taels 110,000 was paid for one *mu*. Taking 6.6 *mu* to the acre, and valuing the tael at 2s. 9d., this means £100,000 per acre, a price rivalling that of most great western cities.

The settlement has been expanded westward beyond the boundary creek and the race-course till its area is considerably more than three times the original size, and of course adequate precautions have been taken to provide for future contingencies of traffic in all the new roads, which are, however, more of the residential than the commercial type. Continued extensions of the settlement are necessitated by sanitary and police considerations, but they are resolutely opposed by the Chinese of all classes on political and patriotic grounds: even the Chinese who have settled for good under the protecting aegis of the 'foreigner', as the safest means of conserving their life and property, unite in resisting the aggressive policy which they impute to the advocates of 'extension'.

**The French Settlement.**—The next settlement was that of the French in 1849; they at first limited themselves to the narrow strip between the Yangkingpang (creek) and the Native City, with a short riparian frontage on the Huang-p'u. This has in recent years been extended until it now covers the considerable tract to the east and south-east of the Native City (between it and the river) known as the Nantse. It should be added that the Yangkingpang creek is now being culverted and transformed into a boulevard (Avenue Edouard VII).

<sup>1</sup> The number of passengers carried by the tramways increased from 27,257,250 in 1911 to 55,647,238 in 1914. The number of public rickshas (all rubber-tyred) licensed in 1914 was close on 8,718, the private rickshas 5,149. Wheelbarrows were licensed in the same year to the number of 6,938; carriages, public and private, 455 and 735 respectively (both considerably decreased since the introduction of the tramways in 1908). Motor vehicles numbered 517 in 1914, of which 390 were private cars.

*The Native City*

The Native City, less than a square mile in extent, was originally rectangular, but is now an oval with its major axis running north and south. It has an inferior moat, and is traversed by two small creeks from west to east ; these waterways are more of a sanitary threat than a military defence ; and the same may be said of the ' walls '. Proposals for the removal of the latter and the filling up of the former have been broached ; but Chinese public opinion is not yet ripe for such radical measures, although it is slowly moving in that direction. The walls as they stand are faced with brick to a height varying from 20 to 30 ft. The wall between the New North Gate and the South Gate is backed by an earthen bank 10 yds. thick. This bank is revetted with masonry on the inside to a height of 10 ft., so that quick access to the path on the top can only be obtained at a few points. Elsewhere the bank is not more than 5 yds. thick on the top, is unrevetted, and stands at an easy slope. The usual rectangular buttress-like projections from the wall occur at short intervals. There are 7 gates of the usual type ; low and narrow, and with small semicircular protecting walls of only 10 to 15 yds. radius. In the east and south walls there are 4 water-gates admitting creeks navigable for small boats only. A moat consisting of a waterway 6 to 10 yds. wide and 1 to 8 ft. deep encircles the wall at a distance of about 20 yds. A rubbish mound about 70 ft. high in the NE. corner of the city is the only natural eminence within many miles. The city follows the usual Chinese type. The streets are narrow, badly drained, ill kept, and the traffic is at times incredibly congested. Extensive suburbs tail off to the south, and extend to the terminus of the Hangchow Railway, and beyond this to the Kiang-nan Arsenal, the possession of which is the first object of every attempt at revolution and social upheaval.

*The International Settlement*

In the later 'fifties' of the last century the Americans took up in a half-hearted manner a large district lying to the north of the Soochow creek and extending down the north and south reach of the Huang-p'u, after its junction with the creek. This was generally known as **Hongkew**, and rapidly developed as the 'marine' portion of the settlements. Docks, wharves, jetties, &c., were built; and the whole district took on the aspect of a great port. In 1863 the British and American Settlements were combined to form the existing **International Settlement**, Great Britain and the United States having agreed to waive their special rights and to throw their areas open to subjects of all nations.

**Landing Parties.**—Some knowledge of the local topography would be of the first importance to landing-parties or forces, and the following points may be noted: the narrowness of the roads, not only in the Native City but in the older parts of the settlement, is adverse to the use of artillery; on the other hand, machine-guns and fire-hose are formidable weapons against a Chinese mob. In the suburbs and country the frequency of irrigation creeks and other channels might handicap field operations unless proper precautions were taken for rapid bridging: the numerous small bridges, usually not strong enough to take heavy guns or high enough to allow boats to pass under, might hinder rather than facilitate movement.

The presence of an overwhelming native population, at once ignorant and excitable, and peculiarly susceptible to the machinations of political wire-pullers, exposes Europeans to the danger of sudden riots.

*History*

Ignoring myth and tradition, Shanghai first emerges into the light of history as a customs station. In 1292 it was made into a 'hsien' or district, pertaining to the 'fu' or 'prefecture' of Sungkiang, which itself fifteen years previously had been separated from the 'fu' of Kashing in the province of Chekiang. Its commercial importance for years

was masked by the greater importance of the customs barrier at the mouth of the Liu Ho some twenty-five miles up the Yangtse from Woosung. When this place began to silt up Shanghai's opportunity came, and its development was rapid. Its importance was wholly commercial; in 1832 when Messrs. Lindsay and Gutzlaff visited it from the south they counted as many as 400 junks passing in within one week.

In the so-called Opium War of 1842 a British fleet under Sir William Parker convoyed an army of 4,000 men under Sir Hugh Gough from Hong Kong, Woosung was captured, and the city of Shanghai seized. The **Treaty of Nanking** (August 29, 1842) secured that Shanghai, Ningpo, Foochow, Amoy and Swatow should become treaty ports; and in 1843 the actual settlement at Shanghai was delimited by Captain Balfour, the consul, and a beginning was made. In 1849 twenty-five foreign firms or *hongs* had established themselves, and the population of westerners amounted to 100. The French came in 1849, and later on extended their small settlement by purchase. In 1899 they got a further extension by treaty, towards Sikawei, the goal of their ambition.

In 1901, after the Boxer rebellion, a large expansion was gained, and the municipal government of the International Settlement was extended over an area of 5,584 acres, with, at the time, a density of population of 92 per acre (59,000 per square mile).

In 1896 the **Treaty of Shimonoseki** gave Japan the right to a separate settlement in Shanghai; but although the Japanese population is now large (3,361 in 1910, but much increased in the last six years) the policy has not matured in any way. Present needs point to an extension in the northern district of Paoshan, and to some control on the Pootung side, where vast foreign commercial interests are at the mercy of a rowdy and often hostile population.

The commercial progress of Shanghai was slow until the **Treaty of Tientsin** in 1861 secured (a) the opening of the Yangtse ports; (b) the opening of the northern ports of Chefoo, Tientsin, and Newchwang.

The most remarkable features of its local history may be referred to, as they illustrate the anomalous attitudes and policies which the Chinese authorities adopt in their dealings with foreigners. Consul-General Rutherford Alcock in 1848 had a dispute with the local mandarins on the old subject of the ill-treatment of missionaries, and, by a blockade effected by a single British gun-brig, prevented 1,100 grain-junks from sailing with the annual supply of tribute rice to Tientsin for Peking. The reprisal was phenomenally effective.

The Native City was seized by the Triad rebels in 1853, and held for seventeen months in defiance of the Imperialists, then exhausted by the long struggle of the **T'ai-p'ing rebellion**. This brought great numbers of Chinese of all classes into the settlements for protection, and caused a boom in real property. As the demeanour of the encamped Imperialist troops was a constant threat, a local volunteer force was enlisted by Captain Wade (the germ of the Shanghai Volunteer Force), and co-operating with a landing-force of seamen, it expelled some 10,000 Chinese braves from their quarters and burned their camps. This feat of arms was known as the 'Battle of Muddy Flat': three foreigners were killed and ten wounded.

The Taipings were the next to threaten the settlements and, after the fall of Soochow in 1860, the menace became grave, all the more so as it was known that vast numbers of wealthy Chinese had again fled to the settlements as a sure refuge. British and French marines were landed in some force, and an Indian infantry regiment was placed on guard on the walls of the Native City. These precautionary measures temporarily succeeded in keeping the Taipings away from the immediate neighbourhood of the city and settlements; but they soon came on again, and in December attacked the city and threatened the settlements. It was on this occasion that the **Defence Creek** was constructed, and all the approaches to the settlements barricaded. The danger passed, and in 1862 the foreign soldiery had command of the suburbs for

a distance of thirty miles out. It was this condition of affairs which brought about the well-known foreign legion which became the nucleus of the '**Ever Victorious Army**'. Originally enlisted for Chinese service under an American citizen named Ward, they consisted chiefly of deserters from ships, of ne'er-do-weels, and penniless adventurers. Ward, a man of singular ability and force of character, was unfortunately killed in action ; and the command of the mercenaries was then given to another American soldier of fortune named Burgevine, of a wholly different type, who first quarrelled with the Imperialists and then transferred his services to the Taipings. The Chinese, finding it impossible to control its foreign corps, at last acquiesced in the suggestion of Sir James Hope and gave the command to a British officer, **Major Charles George Gordon, R.E.** Under his leadership the force became disciplined, and materially assisted the Chinese under Li Hung-chang to quell the rebellion completely. In 1867 the **British garrison**, after a seven years' stay, was finally removed from Shanghai : it had consisted of one British and two Indian regiments, and a battery of artillery.

Most of the other seditions which gave trouble were strictly local, and have been within the ability of the municipal forces (volunteers, police, and fire brigades) to deal with. In 1874 there was a serious riot in the French settlement, due to disturbing a grave-yard in a matter of public works. In 1894 a huge fire ravaged the Nantse, and prepared the way for indefinite Bund improvement, which was finished in 1897. This imitation of foreign procedure was carried further, for a Chinese Council to supervise civil and municipal administration was set up, and road-making and policing on foreign lines were adopted.

In 1897 the imposition of a wheelbarrow tax raised a dangerous riot, but the local forces, acting with a landing-party of seamen from the men-of-war, were able to deal with it.

In the **Boxer rising** of 1900 four of the Great Powers landed troops in Shanghai in case of need, which happily never arose ;



and for two years the settlements were again garrisoned by foreign troops.

The suppression of the **Ningpo joss-house** by the French led to a similar riot in 1908. The lesson of these incidents is that Shanghai has now a large population of the *canaille* type, the ignorance and prejudices of which the Chinese authorities, if so disposed, can use to good or evil purposes at will.

A difference of opinion with regard to the jurisdiction of the British Assessor in the Mixed Court led to serious trouble in 1908. Seditious posters were put up by the malcontents, and a general strike and a boycott on the part of the Chinese were threatened, while foreigners were badly molested in the streets : still more serious, determined attacks were made by rowdies on the police stations, and arson was resorted to. Only the timely arrival of the Volunteers and a landing-party and the shooting down of some rioters at a critical moment saved the situation.

The revolutionary movement of 1912 has affected Shanghai only to the extent that the party against the Government invariably tries to seize the Kiang-nan Arsenal, and the shelling and cross-firing consequent on these attacks have endangered both the outlying districts and the foreign property in Chinese territory.

### *Population*

The number of foreigners in the two settlements in October, 1915, was 20,924 ; 18,519 in the International Settlement, and 2,405 in the French Settlement. Of this total 11,691 were males and 9,233 females. The census included the outside roads and Pootung

The nationalities in the International Settlement included :

Japanese	.	.	.	.	7,169
British	.	.	.	.	4,822
Portuguese	.	.	.	.	1,323
American	.	.	.	.	1,307
German	.	.	.	.	1,155
Indian	.	.	.	.	1,009

Russian	.	.	.	.	.	361
French	.	.	.	.	.	244
Spanish	.	.	.	.	.	181
Danish	.	.	.	.	.	145
Austro-Hungarian	.	.	.	.	.	123
Italian	.	.	.	.	.	114
Other Europeans	.	.	.	.	.	478
Other Asiatics, &c.	.	.	.	.	.	90

During the last few years the increase of the Japanese has been the most striking feature of the growth in the foreign population.

The **Chinese population** of the International Settlement, polled in 1915, was 620,000. The figures of the Chinese population of the International Settlement since 1870 in periods of five years are :

1870	.	.	.	.	.	96,000
1875	.	.	.	.	.	108,000
1880	.	.	.	.	.	126,000
1885	.	.	.	.	.	168,000
1890	.	.	.	.	.	241,000
1895	.	.	.	.	.	345,000
1900	.	.	.	.	.	452,000
1905	.	.	.	.	.	?
1910	.	.	.	.	.	488,000
1915	.	.	.	.	.	620,000

The Captain Superintendent of Police says in an official report that he has good reason for thinking that these figures *understate* the density of the Chinese population, and he is of opinion that nearly three-quarters of a million work within the settlement limits.

The Chinese population of the French Settlement was :

1890	.	.	.	.	.	34,000
1895	.	.	.	.	.	45,000
1900	.	.	.	.	.	80,000
1905	.	.	.	.	.	84,000
1910	.	.	.	.	.	102,000
1915	.	.	.	.	.	146,000

The population of the Chinese city, like that of all other great towns in the Empire, can only be guessed at. The Chinese social unit is not the person or individual, but the *family* or household ; and the number of heads can only be obtained by multiplying the number of households by a rough average figure denoting the number of souls in each family. On this crude method the population of the Native City may be reasonably guessed as lying between the limits of 400,000 and 500,000. It will thus be seen that there is every reason for concluding that well over one million Chinese live and work in the Shanghai area.

The **death-rate** for Europeans varies greatly : it changed from 11·2 per thousand in 1905 to 21 in 1912, 21·5 in 1913, and 22 in 1914 ; that of the Chinese varies quite as much over a long period, but has shown a recent tendency to improve : it was as high as 30·9 per thousand in 1903, but only 13·8 in 1911, 15·8 in 1913, and 16·2 in 1914.

The birth-rates as factors of population are completely masked in the cases of foreigners and natives alike by the figures of immigration.

### *Food-Supply*

The food-supply of this vast aggregate of human beings presents no difficulty. Luxuries such as European wines and the higher grades of Western food and condiments are imported ; flour is imported in huge quantities from America, though China itself is increasingly a wheat and grain producing country, and large flour-mills with modern machinery and an enormous output have been established quite recently around Shanghai. Rice in vast quantities comes down the river from Wuhu, which claims to be one of the largest rice-exporting dépôts in the world. Meat, venison, poultry, and game of every variety are found in the country ; and modes of supply (even cold-storage) and transit have been specially organized to meet the ever-increasing demands of Shanghai. The same may be said of every variety of European and

Eastern vegetable, and of many Western fruits. Tropical fruits come in large quantities from the South, while Chefoo and the North send grapes, apples, pears, peaches, apricots, &c., &c. Food is cheap and abundant, and in the Shanghai district a large force could find its supplies without much oversea transport. The Chinese are good fishermen, and there is an endless supply of all sorts of sea and fresh-water fish at all seasons of the year. The shot-gun can in most districts add liberally to the larder ; and snipe, duck, pheasant, partridge are abundant in their seasons near most treaty ports. Larger game, as deer, wild boar, &c., can be shot by going farther afield.

### *Hygiene*

There is an admirably organized and administered health-officer's department which does great a work in preventive medicine as well as in the ordinary routine work of public hygiene. At one time the presence of an immense and dense Chinese population, utterly devoid of all sanitary knowledge, was a constant menace to the health of the settlements ; but gradually and with caution, native prejudices have been overcome in many phases, and it may now safely be said that the Chinese are as immune from certain of the zymotics or dirt-diseases as the foreigners themselves (from 1908 to 1914 they had much smaller death-rates). Small-pox, for example, is no longer more mortal to the Chinese than to the European. The zymotic diseases are treated as in England, and 'notification' and segregation are practised with fair success, even among the Chinese, who are adepts in the art of concealing infectious cases.

Anti-mosquito procedure is practised to reduce malaria, and rat extermination is steadily maintained as a preventive against bubonic plague. A well-equipped and finely officered bacteriological laboratory carries on the manufacture of all the serums and anti-toxins known to modern medicine.

Dysenteric and choleraic diseases are endemic, but fre-

quently appear as epidemics among both Europeans and Chinese : the Health Officer wages constant warfare against them by pamphlet and precept on the subjects of personal and food cleanliness. Bubonic plague has been a serious menace for some ten or fifteen years, but so far has not matured as an actual epidemic of pestilence. Tuberculosis is, however, *the* mortal foe in Shanghai, and probably kills more (Chinese) than all other diseases put together. The extreme overcrowding of Chinese and their personal habits of life render this the most difficult of all diseases to combat, seeing that abundance of fresh air is the chief palliative and cure. It must be noted that Sikhs and Indians are extremely liable to pulmonary tuberculosis, and that in their case the disease is very rapid in its progress and has a high mortality.

Shanghai is no exception to Eastern cities in the virulence and danger of venereal diseases.

### *Defence*

Defence and protection have ever been absorbing considerations to those responsible for the consular and municipal government of the settlements. The mere fact that a handful of Europeans are in the midst of an alien civilization and race renders explanation unnecessary. Men-of-war of all nationalities frequent the port, and as a rule there are three or four third-class cruisers and gunboats in the harbour, while often larger armed vessels and even fleets are to be seen at the deeper anchorages below Woosung. These vessels in great and sudden crises can send ashore large and well-armed landing-parties. In times of anxiety and impending trouble, the war-ships flock to Shanghai, and their arrival and presence exercise a very marked steadying influence. But generally speaking, Shanghai depends on itself for its normal protection. The protective forces consist of (1) police, (2) volunteers, (3) fire brigade. Details are given of each in the Municipal Report under the heading of Watch Matters. We shall confine ourselves to a brief summary dealing chiefly with numbers.

**Police.**—The 'actual' strength for 1914 was :

- (a) *Foreign Branch* :—230, exclusive of the commissioned officers in command, and 29 men who left for war service at home.
- (b) *Sikh Branch* :—572, of whom 457 were in the constabular force and 115 in the Gaol service.

There were also in 1914 as many as 397 Sikh watchmen in private *hongs* ; they are under police supervision, and available for help in certain contingencies. Many of these men are ex-soldiers. The Sikh police are under military discipline. Twenty-five of them are mounted and act as troopers.

- (c) *Native Branch* :—These numbered 1,116, of whom 82 were sergeants.

The whole force is under the command of a captain-superintendent, responsible to the Watch Committee of the Council. The captain-superintendent is a British Army officer (retired or on furlough), and he is assisted by a staff of officers (usually military men) and cadets. A useful and efficient part of the force is the Criminal Investigation Department.

The police force is allocated to nine different dépôts, and averages one constable to every three acres and 270 head of population. The above figures do not include the French force of 54 Europeans, 141 Tonkinese (slowly being increased), and 226 Chinese constables.

The effectiveness of the policing of Shanghai is seen in the general security of life and property : but in the case of danger to Europeans arising from any source which involved Chinese national sentiment, or where intimidation could be brought to bear, it might be unwise or even disastrous to place confidence in the native constabulary. In the cognate case of Tientsin in the Boxer rising, the native police with one single exception deserted, and only reappeared on the foreign side when the political wind had completely changed : on the other hand, in the same rising, the men of the Wei Hai Wei regiment to a man remained faithful, and did some useful service.

**The Volunteers.**—These are armed, uniformed, and maintained by the Municipal Council. On December 31, 1914, they numbered 1,192. They were formed into light horse (43), artillery (39), Maxim battery (31), engineer company (44), and infantry, of which the companies are 'A' (113), 'B' (61), 'The Customs' (28), 'The Germans' (102), 'The Americans' (56), 'The Portuguese' (79), 'The Japanese' (51), 'The Chinese' (95), 'The Austro-Hungarians' (33), 'The Scottish' (68), 'The Italians' (39), 'Buglers' (19), 'Reserve Company' (123), 'Light Horse Reserve' (21), 'Special Reserve' (123). The Council gives commissions, and provides every facility for efficiency in the way of rifles, ammunition, shooting-range, drill-hall, &c. It also invites a general officer of high standing up from Hongkong every year to inspect and report.

There is also a volunteer force under the auspices of the French Municipal Council, and this body would act in close co-operation with its neighbours for all purposes of attack and defence in critical times.

**The Fire Brigade.**—This is a volunteer body, led by a professional fire 'expert', and it exists primarily for security against fires. It had as many as 161 'calls' in 1914, of which 138 were within the settlement limits; and its record in dealing with fire extinction is almost unique for a volunteer brigade. But although its work in ordinary times is exclusively civil, it is not to be ignored that in times of crisis it might possess high value for 'defence' in another sense. There are at present four companies or units, each with its own dépôt and gear located in different districts. The Brigade on December 31, 1914, was 49 strong, with an additional 18 men on leave at home on war service. There is active co-operation with a similarly organized and efficient institution on the French side.

#### *Government and Finance*

British subjects are in matters of law subject to the direct control of their own **Consuls**, and to the jurisdiction of a **Supreme Court**, which dates from 1865. There is one judge and

one assistant judge, and arrangements have been made for them to sit *in banco* with the brother judges in Hong Kong and take appellate cases, to save the expense and delay of appeals to London. There is practically no imperial taxation for British subjects in Shanghai or the China outports: the small sum of \$2 per head of household is paid annually as a registration fee, and this is all. The Consulates, however, are in some measure self-supporting from stamps and fees pertaining to bills of lading, land registration, certificates, transit passes, &c.

Similar conditions apply to the nationals of other Powers. On the other hand, there is practically 'home rule' as far as local or **municipal government** is concerned. A council of nine is elected every year, and the duties of road-making, lighting, police, public health, and taxation are wholly undertaken by this body. In 1914 the actual **revenue** collected amounted to Taels 2,934,381.

The ordinary **expenditure** for the same year amounted to Taels 2,700,218, giving a surplus of Taels 234,163. The leading details of this expenditure were as follows:

	Taels.
Volunteer Corps . . . . .	55,701
Fire Brigade . . . . .	69,856
Police . . . . .	920,791
Health Dept. . . . .	187,984
Public Works . . . . .	705,133
Public Band . . . . .	51,630
Education . . . . .	93,476
Public Library . . . . .	2,326
Finance . . . . .	72,485
Secretariat . . . . .	156,451
General Charges . . . . .	108,239
Interest on Loans . . . . .	124,932
Redemption of Loans . . . . .	151,210

Some of the greatest difficulties of the Council arise in connexion with the police administration. Just as all foreigners are subject in law to the consular authorities of their own country, so are the Chinese amenable only to the laws of



China, and can be tried only by their own officials. Herein lies the germ of all trouble ; the writ of the Chinese officials does not run within the limits of the settlement, and only the municipal police can effect arrests. There are, however, hundreds of municipal sanitary and police regulations and by-laws, the non-observation of which is punishable by fine on summary procedure. To meet the exigencies of this anomalous state of affairs and of litigation between foreigners and Chinese, a **Mixed Court** was established in 1864. It is in essence a Chinese Court presided over by an 'official' with the rank of subprefect : with him sits as assessor a foreign consular official, who watches the case in the interests of his co-nationals in particular, and of justice in general. Penalties of imprisonment for crimes committed *in the settlement* are carried out in the Council's prisons.

A **Court of Consuls** selected by the consular body annually was created in 1870, for enabling Chinese to sue the Municipal Council in cases of alleged grievance.

The code by which the foreign population secures the management of its own municipal affairs is known as the **Land Regulations**. Originated in 1854, they were amended in 1870 and again in 1898 ; the **franchise** is that ratepayers who pay on an assessed rental of Taels 500, and owners of land valued at Taels 500 have a vote. The Council elects its own chairman, vice-chairman, and committees. The duties have become exceedingly exacting, and it says much for the public spirit of Shanghai that men come forward year after year to undertake them. The French Settlement has a Council with powers similar to that of the international, but with this all-important difference, that none of its decisions have effect till approved by the French Consul-General.

The decisions of the Municipal Council are in many matters subject to the veto of the consular body ; and it is a long-standing grievance that the *doyen* of this body may perchance be the representative of some minor power which has very little stake in China, and no national interest in the questions submitted to him for transmission to the diplomatic

body in Peking, or for the consideration of his colleagues. Even if he be not *doyen*, his voice and vote may be as potent as those of the British Consul-General representing vast national and commercial interests.

The consular body does not always see eye to eye with the Municipal Council, and there have been occasions when its conclusions have been overridden by the ministers in Peking. Generally speaking, the system of municipal government in Shanghai works smoothly, notwithstanding all sorts of difficulties inherent to the situation, and a tradition of good honest government has been created.

### *Public Institutions*

In the way of churches, clubs, philanthropic associations, libraries, horticultural and kindred societies, playing fields, public gardens, and sporting clubs of every description, Shanghai is probably better supplied than most western cities of equal standing and size. The General Hospital, the Victoria Nursing Home, and children's schools are well organized. A proper drainage system presented great engineering difficulties, but they were overcome; and the water-supply is thoroughly adequate to public and domestic requirements. The municipal markets are admirably administered.

### *Communications*

Shanghai is virtually a metropolis situated at the centre of the littoral of a country which contains the greatest number of citizens in the world. Ten years ago the communications of this country were entirely maritime and aquatic; and even now **roads**, strictly so-called, hardly enter into the count, though there is no foretelling what change the arrival of the motor-car may effect in the next two decades.

**Railways** in a few years have profoundly modified the travelling habits of all classes. Shanghai has at present two main lines, one to Nanking, which there connects with the Pukow-Tientsin line, and so effects contact with Peking, Siberia,

and Europe ; and the other to Hangchow, the capital of Chekiang. See chapter on Railways.

**Water Communications.**—Of all the provinces none excels South Kiangsu in the multiplicity and complexity of its creeks, canals, and rivers. Sampans, small junks, and steam-launches ply at regular and irregular intervals to every city and town of South Kiangsu. The steam-launch is playing a great part in China's commercial development : the Chinese now build and engine them without European help, and use them both as passenger vessels and as tow-boats for flats and junks.

**Steamer traffic.**—There are three British lines, two Japanese, one German, and one Chinese, which work the Yangtse ports as far as Hankow (585 miles), taking all the river ports *en route* ; beyond this, four lines take one in lighter draft vessels to Ichang (another 500 miles) ; and finally one foreign line and one Chinese negotiate the Yangtse gorges and their formidable rapids as far as Chungking (some 1,400 miles above Shanghai). There are subsidiary lines from the river through the Poyang and Tungting lakes, and to every town of importance on the tributary streams. The ports on the littoral to north and south (to Tientsin and Newchwang on the one hand, and Hongkong on the other) are worked by liners as follows : British (3), Japanese (2), German and Chinese—besides large numbers of 'tramps'. See list of Shipping in Appendix.

Shanghai is kept in direct communication with all the trading centres of the world. London, Liverpool, Antwerp, Hamburg, Marseilles, Naples and Genoa, Trieste, New York, Calcutta, Bombay, Dairen, Vladivostock, the Japanese ports, San Francisco, Portland, Seattle, Vancouver, Saigon, Singapore, Manilla, and the Australian ports are all in direct and regular communication with Shanghai : this list might be doubled if we included the additional routes and sailings attainable by transshipment at Hongkong.

**Tramways.**—In dealing with communications the vast changes brought about in the settlements by the introduction of tramways must not be overlooked. There are in all eleven

routes by which people can get quickly and cheaply from point to point in the International Settlement, the French settlement, and the Native City, though a system of interchange has not yet been worked out to the extent that marks Tokio and other large cities in Japan. It is somewhat remarkable that passenger traffic (for natives) still survives by wheelbarrow.

**Motors** threaten almost as great a change of habit as they have effected in the West. At present they are confined to prosperous Europeans and wealthy Chinese; the motor omnibus has not appeared, though the 'taxi' is coming into evidence.

Fares are municipally regulated in the case of carriages, rickshas, and barrows, and all the vehicles are under police inspection and licence.

**Posts, Telephones, and Telegraphs.**—In addition to the Imperial Chinese Post Office, British, American, French, German, Japanese, and Russian Post Offices exist in the settlements, and undertake the delivery of local correspondence. The British Post Office is in Peking Road.

An efficient telephone service, with a central call office and overhead wires, is in operation throughout the settlements, and is the almost universal means of communication.

Five practicable cable or land telegraph lines connect Shanghai with London :

(1) Eastern Extension Telegraph Co. (British). Cable via Hongkong, Madras and Suez.

(2) Eastern Extension Telegraph Co. (British). Cable via Australia and South Africa.

(3) Great Northern Telegraph Co. (Danish). Cable to Tientsin, thence overland via Peking and Kiakta, connecting with Russian land lines through Siberia.

(4) Commercial-Pacific Cable Co. (American). Cable via Manilla, Guam, Honolulu, and San Francisco.

(5) German-Dutch Telegraph Co. (German). Cable via Borneo, Guam, Manilla, and San Francisco.

A sixth route exists by the Imperial Chinese land lines, via Laokay or Bhamo.

The Chinese Government have public and official wireless installations at Shanghai, Telefunken system with day range about 200 miles.<sup>1</sup>

### *Industries and Manufactures*

Engineering works are distributed all over the settlements and Pootung. There is practically no section of this great industry neglected, for at Kiang-nan Arsenal they even forge steel for heavy guns ; and any machine from a chronometer to a hydraulic ram, a type-writer to a linotype, can be attended to and put right, new parts being made if necessary.

The **dry docks** and building yards are located on both sides of the Huang-p'u, and their dimensions should be noted :

Name of Dock.	Length.		Breadth of entrance at—		Depth at high-water ordinary springs.		Date of construction.
	On blocks.	Over all.	High-water ordinary spring level.	On sill.	On sill.	On blocks.	
	ft.	ft.	ft.	ft.	ft.	ft.	
Cosmopolitan . . .	532	560	77	70	24	24	1899
International . . .	528	540	77	66	23	22	1899
New . . . . .	450	473	74	52	22	19½	1880
Old . . . . .	400	400	53	—	16	15½	1853
Tunkado . . . .	350	362	67	—	16	15½	1862
Kiangnan . . . .	325	375	79	—	19		1870

The Shanghai yards can build, engine, and equip sea-going steamers of 1,500–2,000 tons equal in all respects to the products of Clyde and Tyne. Cheap labour and the saving of expense in bringing new ships out from home appear to balance the greater cost of materials.

The Kiang-nan Arsenal now also does marine repairs, and

<sup>1</sup> Further information on the subject of post offices, banks, shops, customs duties, tariffs, money, newspapers, shipping, fares, &c., &c., can be readily obtained from guide-books and pamphlets. It might usefully be borne in mind that small token silver is usually at a heavy discount.

it is the leading armoury of Central China. It has good modern machinery, and can turn out guns of moderately large calibre and small arms of every description, besides naval and military stores. The powder factories are situated a few miles farther inland at Ling-hua-pao.

The **cotton-spinning** industry is now over twenty years old, and has not proved altogether the success that was at first anticipated, though it is now improving, and in some cases prospering. The mills are mostly British, but the Japanese, Germans, and Chinese have also considerable interests in the industry ; the output in yarns is mostly purchased and woven into cloth locally. The mills are mostly located below Hongkew, with one or two large ones at Pootung, and have from 40,000 to 60,000 spindles each. Some of them have closed down ; but it may safely be said that in 1914 the total number of spindles in operation numbered between 300,000 and 350,000.

Next to cotton, **silk filatures** rank as a leading industry, giving employment to over 20,000 Chinese (mostly women and girls). They are found all over the Sinza and Hongkew districts ; the factories are 25 to 30 in number (only five are foreign-owned), with a total of 8,000 basins.

**Wool, bristles, and feather-cleaning** factories are also numerous in the suburbs on both sides of the river. The wool-cleaners are nearly all cargo-packers, and have powerful hydraulic presses : hides, furs, and pelts of every description are also treated and exported in large quantities. **Paper-making** (of the rougher kind for native use), **flour-milling**, and **match factories** are being developed by native capital. Now that oil is brought in bulk in ' tankers ', the ' tinning ' industry to further the retailing of the oil is also growing rapidly. The Chinese are large consumers of **mineral oil**, and every treaty-port has now huge dépôts, always outside the harbour limits, for receiving and distributing the oil. In a similar way the **potash** trade is developing very rapidly.

*Trade and Commerce*

Shanghai's commercial pre-eminence is less a matter of manufacturing prosperity than of banking, shipping, insurance, and distribution. Before manufactures appeared at all, it was already one of the great world centres of trade. The annual and decennial reports and returns of the maritime customs are the best documents to study the port's commercial development. A bare summary only can be given here. In the short period between 1906 and 1912 the total **import** and **export trade** increased from a sum of Taels 421,956,496 to Taels 491,485,487. Of this enormous aggregate the import of **foreign goods** amounted to Taels 211,769,603. Taking only the articles which were valued at over one million Taels, we get cotton goods 53,000,000, opium 32,000,000, cotton yarn 30,000,000, sundries 28,000,000, sugar 9,000,000, dyes 8,000,000, kerosine 6,000,000, raw cotton 6,000,000, tobacco 6,000,000, metals 6,000,000, woollen goods 5,000,000, soap, gunny bags, machinery, paper, wines and spirits, timber, and electrical gear 1,000,000 each. That 138,000,000 Taels worth of these goods were re-exported, chiefly to the river and northern ports, emphasizes the fact that Shanghai is a great distributing centre.

**Native produce** to the value of Taels 198,000,000 were also imported, and almost all re-exported, namely, Taels 42,000,000 worth to Chinese ports, and Taels 125,000,000 worth to Hong-kong and foreign countries, the balance being retained for local consumption.

In the year 1914, the latest pre-war figures, the total imports were Taels 241,245,867, the total re-exports 142,580,114, leaving Shanghai with net imports valued at Taels 98,665,753. In the same year the native produce amounted to only Taels 172,685,347, of which Taels 148,039,898 were re-exported, leaving Shanghai to be credited with Taels 4,645,449.

The net *exports* of produce of local origin in 1914 amounted to Taels 84,763,933, and adding imports and exports together

we get the net value of the trade of the port to amount to Taels 208,075,135.

The total trade in 1914 was Taels 498,695,147, of which Taels 290,620,012 were re-exported.

The Maritime Customs revenue for 1914 amounted to Taels 12,061,197, allocated as follows: British, Taels 6,063,141; Japanese, 2,485,208; Chinese, 1,309,217; German, 812,328; French, 315,710; Austrian, 222,121; American, 141,161. A very noticeable feature was that the revenue from imported opium had fallen to Taels 344,079.

The **shipping** returns (steamers only, as the sailing vessels are in comparison a negligible quantity) show the same predominance of British interests. Of a total of 14,640 steamers entering the port with a tonnage of 18,733,167, the British had 4,338 ships and 7,848,371 tons; the Japanese 3,581 vessels and 4,704,467 tons; Chinese, 5,251 vessels and 3,347,287 tons; Germans, 435 and 1,117,700 tons; Americans, 460 and 444,672 tons; French, 123 and 440,473 tons; Russian, 122 and 224,948 tons; and Norwegian, 129 and 154,694 tons.

With regard to the **distributing trade** of Shanghai, signs are not wanting that it is being slowly undermined to some extent. Shippers are increasingly sending big ocean-going steamers, especially with heavy machinery and oil, to the outports direct; and when these vessels are able to pick up export cargo, as they often do, they never go near Shanghai at all.

The **banking** and **insurance** business done in Shanghai is enormous, and though it is participated in by all the leading trading countries, Great Britain, India, and the colonies do more than all the rest put together. It is also a great centre for joint-stock operations, and has an active Stock Exchange under rules and regulations similar to those prevailing in British cities. Many of the companies, in cases where the majority of the shareholders are Chinese or non-British foreigners, are on the Hongkong register, and are subject to the laws and regulations of the Crown Colony.



*Distances from Shanghai*

		miles	Routes
To Changchow Ku	by water	126½	5 A, 1 A
„	by rail	104	—
Changshu Ku	by water	85¼	9 A
„	„	74½	9 C
Chapu	„	63	3 C
Chinkiang	„	165	Yangtse
„	by rail	150	—
Fengsien	by water	35¾	2 A
„	„	32¼	2 B
Hangchow Settlement	„	121	3 A, 1 A
„	by rail	113	—
Kashing	by water	63½	3 A
„	by rail	56	—
Kiatinghsien	by water	25	7 D
Nanking	„	210	Yangtse
„	by rail	193	—
Kiangyin	by water	105	Yangtse
„	„	125¼	9 A, 13
Kunshan	„	48	5 B
„	by rail	32	—
Küyung	by water	180¼	5 A, 1 A, 17 B
	and land		
Liuho Ku	by land	28½	7 E
Pinghu	by water	55¼	3 C
Pingwang	„	67½	4 A
„	„	64½	4 B
Soochow	„	70	5 A, 5 B
„	by rail	53½	—
Sungkiangfu	by water	32	6 A
„	„	29¼	6 B
„	by rail	22	—
Tanyang	by water	154	5 A, 1 A

		miles	Routes
To Taitsang	by water	54	7 A
„	„	43½	7 B
„	„	46	7 C
Tsingpuhsien	„	33¾	4 B
Wusih	„	100¾	5 A, 1 A
„	by rail	80	—

**SHIHMEN CHE** (Chekiang)

Approximate { Latitude, 30° 35'.  
 { Longitude, 120° 24'.

*Authority* : Military Report on the Province of Chekiang, 1912.

Shihmen Che or Shih-mên-hsien, locally pronounced Za-mên-yüen, is a city of irregular shape, with a perimeter of about 2 miles. It is surrounded by a wall 15 to 20 ft. high, 3 ft. thick, backed on the inside by a mud-bank 12 ft. thick, reaching to within 5 ft. of the top of the wall. This bank is revetted on the inside with stone and brick so that it cannot easily be climbed except by the steps which ascend it at each gate. The wall is of stone with the exception of the upper 6 ft., which is of brick.

There are five gates, known respectively as the North, East, Great South, Small South, and West Gates. Of these the North and the Great South Gates are protected by a semicircular bastion of similar construction to the wall, and of about 30 yds. radius. The entrance to the bastion is by another gate, which at the North Gate is in the east side of the enclosure, and at the South Gate in the west side.

There are three water-gates by which boats can enter the city, near the North, West, and Great South Gates.

At an average distance of 10 yds. from the wall is a canal forming a moat. The average width is 15 yds. on the north, west, and south sides, but on the east side the Grand Canal, here 40 yds. wide, forms the moat. Except on the north

side, where the water is only 1 to 2 ft. deep, the moat is navigable for boats. It is bridged at each gate.

The wall is broken down 30 yds. south of the East Gate, and could be climbed there in two places close together; it has also given way at a point 300 yds. south of the East Gate. The most vulnerable part of the city, however, is the north side, where the moat is never more than 1 or 2 ft. deep, and in winter is quite dry for a distance of 20 yds. from the point where it joins the Grand Canal at the North Gate. Moreover, the northern suburb gives cover nearly up to the North Gate.

The population of Shihmen Che is estimated at 7,000. Inside the city the western half is fairly well filled with houses, but the eastern half consists chiefly of open spaces lying round a large examination hall. There is a suburb of 120 houses outside the North Gate, and smaller suburbs outside the West and Small South Gates.

*Surroundings.*—The surrounding country is quite flat, much cut up by creeks, and well planted with mulberry-trees and rice.

*Supplies.*—Supplies of pork, fish, ducks, chickens, vegetables, rice, and flour are obtainable, but as the trade of the place is small they are not found in large quantities.

*Transport.*—Boats are exclusively used for transport. Perhaps 100 craft of all sizes would be obtainable here. Wheelbarrows are not used.

*Government.*—The city is of the fourth or Hsien class, and is subordinate to Kashing. There is no garrison beyond a few soldiers for police purposes. There are no foreign residents.

*Communications.*—Nearly all travelling is done by water. Launches navigating the Grand Canal stop at Shihmen Che; and a creek running from the city to Haining is said to be navigable by launches, but it is not regularly used owing to lack of trade. A canal also goes south to Changan and thence to Hangchow, but boats have to cross a haulover at Changan. Although the waterways are most used, a road

passable for horses runs along the Grand Canal to Kashing, and another leads southwards through Changan to Hangchow.

There are post and telegraph offices at Shihmen Che.

*Distances from Shihmen Che*

	miles	
To Hangchow (Settlement)	30 $\frac{1}{4}$	Route 1 A
Hangchow (City)	35 $\frac{3}{4}$	„ 1 A
Changan	5 $\frac{1}{4}$	„ 1 E
Kashing	27 $\frac{1}{2}$	„ 1 A
Shanghai	90 $\frac{3}{4}$	„ 1 A and 3 A

## SHUYANG

Approximate { Latitude, 34° 15'.  
                  { Longitude, 118° 57'.

*Authority* : A. H. Hilton-Johnson, 1908.

*The City and Suburbs.*—Shuyang is a walled city situated on the east bank of a small river called the Shu Ho or Shang Ho, about 43 miles by road NNW. of Tsingkiangpu. Its population is approximately 10,000. The trace of the walls is roughly oblong, the city about 1 $\frac{1}{2}$  miles long from east to west, and less than  $\frac{1}{2}$  mile wide from north to south. The wall consists of the usual brick-facing a few feet thick and 20 to 25 ft. high, backed on the inside by an earth-bank and forming a crenellated and loopholed parapet some 6 ft. higher than the top of it.

There are four gates, placed one each at the east and west ends and two in the south wall. The entrances are 12 to 15 ft. square and have heavy, iron-bound, wooden doors.

There is an extensive suburb nearly a mile long outside the East Gate and smaller ones outside the South and West Gates. The interior of the city is thickly built over. The houses in it and the suburbs are mostly of brick with tiled

or thatched roofs. The streets are narrow, and paved with flag-stones.

*Surrounding Country.*—The surrounding country is flat or slightly undulating, with little vegetation, and generally passable—except for the river on the south—by all arms. There is no high ground within artillery range.

*Supplies.*—Supplies of food, fuel, and forage are obtainable in fair quantities. Water is obtained from the river and from wells, but is hard and of poor quality.

*Transport.*—Land transport consists chiefly of wheelbarrows, and about 300 would be obtainable. There is no cart agency and no regular supply is forthcoming. There is a fair general business in the city, more particularly in the eastern suburb, but nothing special either in the way of trade or industry. Water transport consists of a few boats lying in the river to the SW. of the city.

*Government.*—Shuyang is a district city dependent on Haichow, which itself is under the Tao-t'ai of Süchowfu. The chief local official is the Chih-hsien or chief magistrate, whose *yamên* is situated near the West Gate. There are about 30 police.

*Communications.*—There are good cart-roads radiating in all directions. By water there is communication in summer with Haichow, and for a short distance to the south and east. In winter the river is deep enough for small boats only, for a few miles either way. There is a post and telegraph office in the city.

#### *Distances from Shuyang*

		miles	
To Haichow	by land	48½	Route 28 C
Tsingkiangpu	„	42½	„ 28 C

**SINPUCHEN.** (See Plan)

Approximate { Latitude,  $34^{\circ} 37'$ .  
Longitude,  $119^{\circ} 20'$ .  
Height, sea-level.

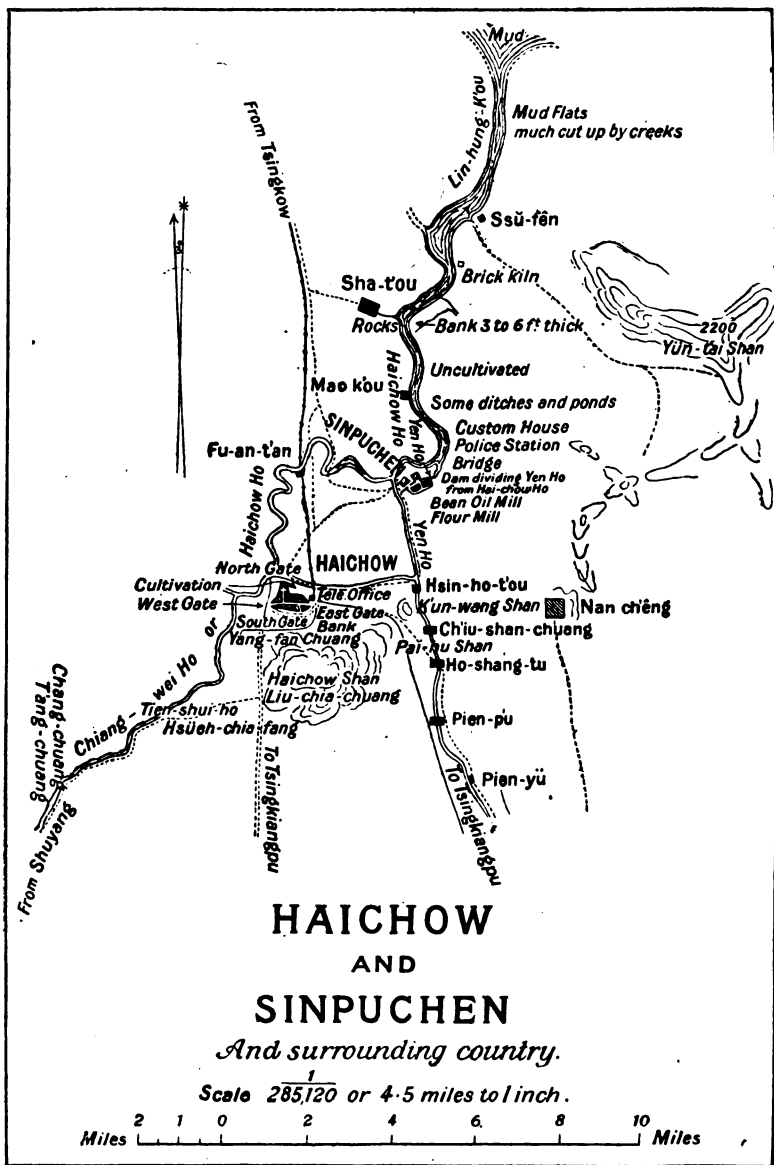
*Authority* : H. R. Davies, 1908.

*The Town.*—Sinpuchen, or Hsin-p'u, is a market town near Haichow, of which place it is the port. Its proper official name is Lin-hung-chên, but it is commonly called Hsin-p'u. It is of considerable importance as being the junction of the Yen Ho (No. 1) or Salt Canal with the tidal river called the Haichow Ho, which junks can ascend. The Haichow Ho is often locally called the Ch'ao Ho or 'Tidal River'. The Yen Ho (Salt River) is so-called not because its water is salt, but because it is used for carrying the salt, manufactured in the Haichow district, to Tsingkiangpu.

The town is about  $\frac{3}{4}$  mile long and contains 500 or 600 houses, stretching along the neck of land between the Yen Ho and the Haichow Ho. The houses are nearly all of mud and most of them small. On the south bank of the Yen Ho are the Kai-foong Bean-oil Mill and the Hai-foong Flour-mill, surrounded by a wall 10 ft. high, except where buildings form part of the perimeter. The lower 6 ft. of the wall is of stone, and the remainder of brick. Each of these enclosures is surrounded by a moat 10 yds. wide with 4 ft. to 6 ft. depth of water, which is used for the boilers of the machinery. This moat is crossed by two wooden bridges on the north side, opposite the Bean-oil Mill, and also near the NW. corner of the Flour-mill. The walls of the enclosures were loopholed in places during the famine riots of 1907, and still remain so.

Just below the junction of the Yen Ho and the Haichow Ho, on the right bank of the latter, are new customs buildings and a large police station, not yet taken into use (March, 1908).

*Surrounding Country.*—The country round Sinpuchen consists of mud flats, uncultivated, and impregnated with salt.



The nearest hills are Haichow Shan to the south, and Yün-t'ai Shan to the NE., at distances of 4 and 8 miles respectively.

The Yen Ho here is about 30 yds. wide, and is crossed by two wooden bridges. It is separated from a small branch of the Haichow Ho by an earth embankment 15 ft. wide. Moreover, it breaks up into a network of canals. Its depth at the time of the year when lowest is about 3 ft., rising in summer to 4 or 5 ft. This part of its course is liable to be blocked with ice for from one to three months in winter.

The Haichow Ho is a tidal river 150 to 200 yds. wide. It runs through a flat, muddy, uncultivated country to the sea, 11 miles distant. Its mouth and the lower part of its course near the mouth are often called Lin-hung-k'ou. It has two shallow bars, one near Mao-k'ou,  $2\frac{1}{2}$  miles below Sinpuchen, the other at its mouth. Of the latter the China Sea Pilot, 1912, says, 'A shoal or bar extends about 5 miles north-eastward from the entrance, and it can be crossed by junks of 8 ft. draught at high water. The rate of the tidal stream is considerable. The port is frequented at all seasons by large numbers of native craft; the trade, which appears to be of some importance, is chiefly in fish, grain, and other foodstuffs.' The channel is liable to variations in depth from silting and from heavy rains.

The steamer *Kwang-chi* (China Merchants S.S.) has ascended to Sinpuchen and anchored near the customs buildings, where the water is said to be particularly deep; and it is reported that a German steamer ascended via Sinpuchen, as far as 'Hsiang Shui Kou', at the beginning of 1914.

Mr. T. J. Eldridge, the coast inspector in the service of the Chinese Government, writes as follows on the port of Sinpuchen: 'For various reasons, conditions at this port are more unfavourable for navigation than at any other in my knowledge. In the first place, the shallowest part of the river is about two miles below Hsin-p'u and ten above the outer bar. At the shallow referred to,  $3\frac{1}{2}$  ft. of mud are exposed at low water; consequently vessels will often have to wait till high water before they can start. The time of high water on the



outer bar being 20 minutes earlier than at Hsin-p'u, by the time a vessel has reached the former the tide will have fallen 3 or 4 ft. Under these conditions it will not be safe for vessels of more than 8 ft. draught and 250 ft. length to navigate this river at neap tides in the low-water season. At spring tides, vessels of 10 or 12 ft. draught might enter and leave.'

*Supplies.*—Sinpuichen has a daily market, and supplies of the ordinary sort can be obtained. The principal point of importance, so far as supplies are concerned, is that the flour-mill can grind 100,000 lb. of flour in a day, and that a stock of wheat sufficient for the requirements of the mill for three or four months is kept on hand. The beans used in the mill for the manufacture of oil do not appear to be an article of food to any extent. The refuse is made into bean-cake and used as a manure.

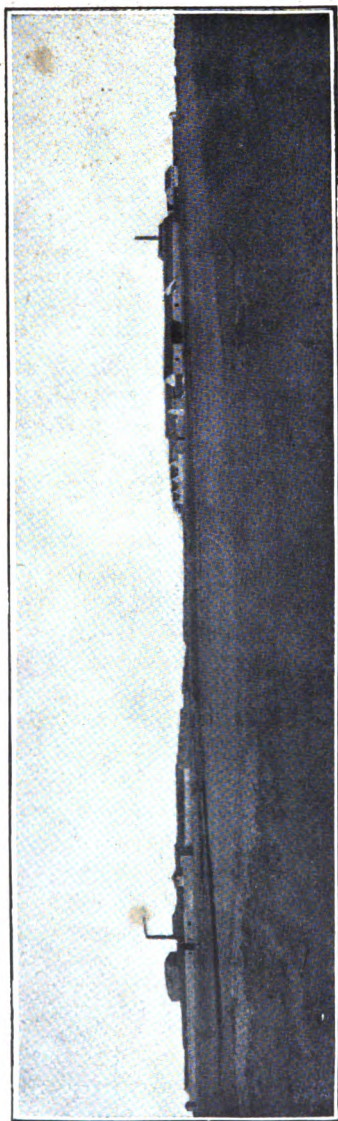
Salt is also largely manufactured in this district from salt wells, the ground all round being full of it. There is no fresh water at Sinpuichen. All drinking-water is brought from Panpu, 12 miles distant, or from the Yün-t'ai Shan. There is drinkable water in the wells at Haichow, but apparently not in sufficient quantity to supply Sinpuichen as well.

*Transport.*—On the Haichow Ho about 120 sea-going junks were counted in March, 1908, of which more than half were large vessels carrying from 50 to 100 tons of cargo. On the Yen Ho about 70 boats were counted, some carrying passengers, and others salt from 6 to 30 tons in weight. For land transport wheelbarrows are almost exclusively used, and probably at least 200 could be obtained at Sinpuichen. There are no roads passable for carts in the neighbourhood.

*Government.*—Sinpuichen is under Haichow. It has a small garrison for the suppression of salt smuggling.

*Communications.*—Those with the sea have been dealt with under the Haichow Ho. The Yen-Ho leads to Tsing-kiangpu and is navigable throughout the year. Wheelbarrow roads lead in all directions.

There is a post office at Sinpuichen.



FLOUR AND BEAN-OIL MILLS (SINPUCHEN) FROM THE SOUTH



*Distances from Sinpuchen*

		miles	
To Haichow	by land	3½	Route 28 B
Haichow	by land and water	6	„ 28 D
Tsingkiangpu	by land	79½	„ 28 B
Tsingkiangpu	by water	95½	„ 28 A
Antungwei	by land	48	„ 30 A
Jihchaohsien	by land	67	„ 30 A
Kiaochow	„	143	„ 30 A
Kiaochow via Chüchow Sung	„ about	181	„ 30 B
Süchowfu via Ichowfu	„	179	„ 31 A
Kanyü	„	23¾	„ 31 A
Ichowfu	„	75¾	„ 31 A

**SOOCHOW.** (See Plan in separate case)

Approximate { Latitude, 31° 19'.  
Longitude, 120° 43'.  
Height, sea-level.

*Authorities :* China, Maritime Customs, Decennial Reports ; Imp. Japanese Rys., Official Guide, vol. iv, 1915 ; Directory and Chronicle for China, &c., 1916 ; ' Beautiful Soo ', H. C. Du Bose, 1899.

Soochow, locally pronounced Su-tseu, is the capital of Kiangsu. It has recently been officially named Wu-hsien. It is celebrated for the beauty of its site and its waterways, and is known as the ' Venice of the East '. It is, moreover, a city of ancient fame, having been the capital of the Kingdom of Wu in the sixth century B. C.

*The City.*—A walled city of the usual type, it is roughly rectangular in form and surrounded by a moat 20 to 80 yds. wide and 6 to 15 ft. deep, a section of which on the west and south sides forms a part of the Grand Canal. A smaller waterway which follows the line of the walls almost the whole way round inside makes an inner moat. The walls are 25 to 30 ft. high, about 10 miles in perimeter, and in very good repair. There are six gates, three of which open on to the Grand Canal.

All of them are approached by bridges spanning the canal, and there are five sluice-gates.

There are extensive suburbs on the west, north, and east. The busiest parts of the city are round the Yüan-miao-kuan in the centre and inside and outside the Ch'ang-mên, an important gate in the northern part of the west wall. The railway station is a mile from this gate, and a short distance outside the NW. corner of the city. The Japanese and European concessions lie along the south of the city beyond the moat, and they are connected with the railway station by a good carriage-road which forms a popular promenade through the west and south suburbs. A branch carriage-road runs west, opposite the Ch'ang-mên to the Liu-yüan gardens. Passengers by boat from the south arrive at the pier outside the P'an-mên (locally, Poo-mên) Gate at the SW. corner of the city.

There are four pagodas in the city, of which the largest is about 250 ft. high, and stands in the centre of the northern quarter. It is accessible, but owing to overhanging eaves it is unsuitable for helio-signalling. The European settlement would form a good camping-ground, as very little of it has been taken up.

The climate is mild with a large rainfall in the spring. The larger streets are tolerably well drained, but the smaller ones are narrow and insanitary. There is no modern water-supply, and the inhabitants within the city depend on wells while those outside use the canal water. The population is estimated at 280,000. Within the walls there are 6 canals running from north to south and 6 from east to west, intersecting each other at intervals of  $\frac{1}{4}$  to  $\frac{1}{2}$  mile. The canals are 10 to 15 ft. wide, and the banks are faced with stone.

The industries include silk filatures and cotton-spinning, but the chief of them is the silk-weaving, for which the city is celebrated. The best rice in China is grown in the neighbourhood, and vegetables, beans, and wheat are cultivated. Stock-rearing and sericulture are largely practised, and the fishing industry thrives in the neighbouring waters. There is an electric light company under Chinese management.

Soochow is an important educational centre with many schools. It has also numerous establishments for special branches of learning, including a college, medical school, agricultural school, polytechnic, normal school, a military school, police school, railway school, and a school of law and politics. In addition to these there are several missionary educational establishments.

There are five hospitals in Soochow and its suburbs and a Government dispensary, including two American Mission Hospitals—one for men and the other for women.

The number of steam-launches entered and cleared at Soochow in 1915 was 9,510, with a tonnage of 303,024.

*Surrounding Country.*—The surrounding country is a flat plain intersected by numerous waterways, and broken some 3 miles south-west of the city by hills rising to 1,000 ft. At a distance of a few miles to the south and west is the T'ai Hu or Great Lake, which formerly extended to the city itself and is now reached by numerous creeks. There are numerous small lakes east of Soochow and within a radius of 5 miles.

*Supplies.*—Large supplies of all kinds can be obtained at Soochow. Fish is abundant, and quantities of fruit, vegetables, pork, mutton, and fowls will be found in the shops.

*Transport.*—Large numbers of boats and junks are always available at Soochow, and steam-launches ply continually in the canals. Outside each of the gates, especially the Ch'ang-mên and the P'an-mên, boats are always waiting. There are thousands of large boats capable of carrying supplies and heavy material; and in the canals are moored numbers of quick pleasure-boats for carrying passengers and picnic parties to places in the neighbourhood.

*Government.*—The office of the civil magistrate for Soochow and Changchow is in the south-western quarter of the city; and near it is the office of the Water Police. There is an organized police force in the city. The Custom-house is situated at the NE. corner of the European concession.

There is a considerable military force at Soochow, quartered in barracks (1) on the west bank of the Grand Canal about

a mile south of the Custom-house, (2) about 1 mile west of the Ch'ang-mên, (3)  $\frac{1}{2}$  mile north-east of the last-named, and (4) on the west bank of the Grand Canal about  $1\frac{1}{2}$  miles west of the last-named. (This is from a report made in 1908.)

*Foreign Residents.*—The European concession is still in an undeveloped state; but there were in 1913 about 118 Europeans resident in Soochow, the majority of whom were Americans and connected with the missionary institutions. The following societies have representatives at Soochow: American Presbyterian Mission, American Presbyterian Mission (Southern), American Protestant Episcopal Church Mission, American Southern Baptist Mission, Methodist Episcopal Church, South, U.S.A., Apostolic Faith Mission, American Church Mission.

The American Presbyterian Mission has a compound, with a woman's hospital, outside the Ch'ang-mên. Inside the Ch'ang-mên the American Episcopal Mission has its quarters, with a boys' school. The Southern Methodist Mission has one compound in the west central quarter, and just south of it is the Southern Presbyterian Mission, which has another compound with a hospital and girls' school outside the Ch'i-mên in the north wall. The Southern Baptist and the Roman Catholic Missions are quartered in the north-east part of the city. The other compound of the Southern Methodist Mission is inside the Fêng-mên (locally called Foo-mên). It contains a hospital for men and another for women, the Laura Heygood Memorial School for Girls, and the Soochow University. This locality is called the T'ien-tz'ü-chuang, and lies just south of the Ink Pagoda.

In the Japanese concession there are the Japanese Consulate, police office, post office, and several hotels. There were 101 Japanese residents at Soochow in 1914.

*Communications.*—The Shanghai-Nanking Railway has a station at Soochow a few hundred yards outside the NW. corner of the walls. A good carriage-road runs from the station outside the west wall to the foreign settlement.

Apart from the railway, communications with Soochow are

almost entirely by water on the network of creeks and canals which surround the city. The Grand Canal route runs northwards to Chinkiang and south to Hangchow. The Tai-shêng-ch'ang-Kung-ssü and the China Merchants' Steam Navigation Company have services to Hangchow, the distance being covered in 17 to 20 hours.

The same companies run a service eastwards to Shanghai; and a very busy junk service plies on the waterways round Soochow in all directions. Movements by land are hampered by creeks and by the bad condition of the towing-paths which run along the canals. There is a Chinese post office in the suburb outside the Ch'ang-mên and others at several places in the city. There is a telegraph service. The telephone office is in the SW. quarter near the civil magistrate's office, and the service extends over the city and suburbs.

*Distances from Soochow*

miles

From Soochow to Shanghai via

Three Waters by water 70 Route 5 A

From Soochow to Shanghai via

Kunshan	„	69	„	5 B
Chinkiang	„	104½	„	1 A
Wusih	„	30½	„	1 A
Changshu Ku	„	22½	„	11
Kashing	„	39	„	1 A
Shanghai	„ rail	53½	„	—
Chinkiang	„	96·87	„	—
Nanking	„	139·85	„	—
Kunshan	water	20½	„	5 B



**SÜCHOWFU.** (See Plan)

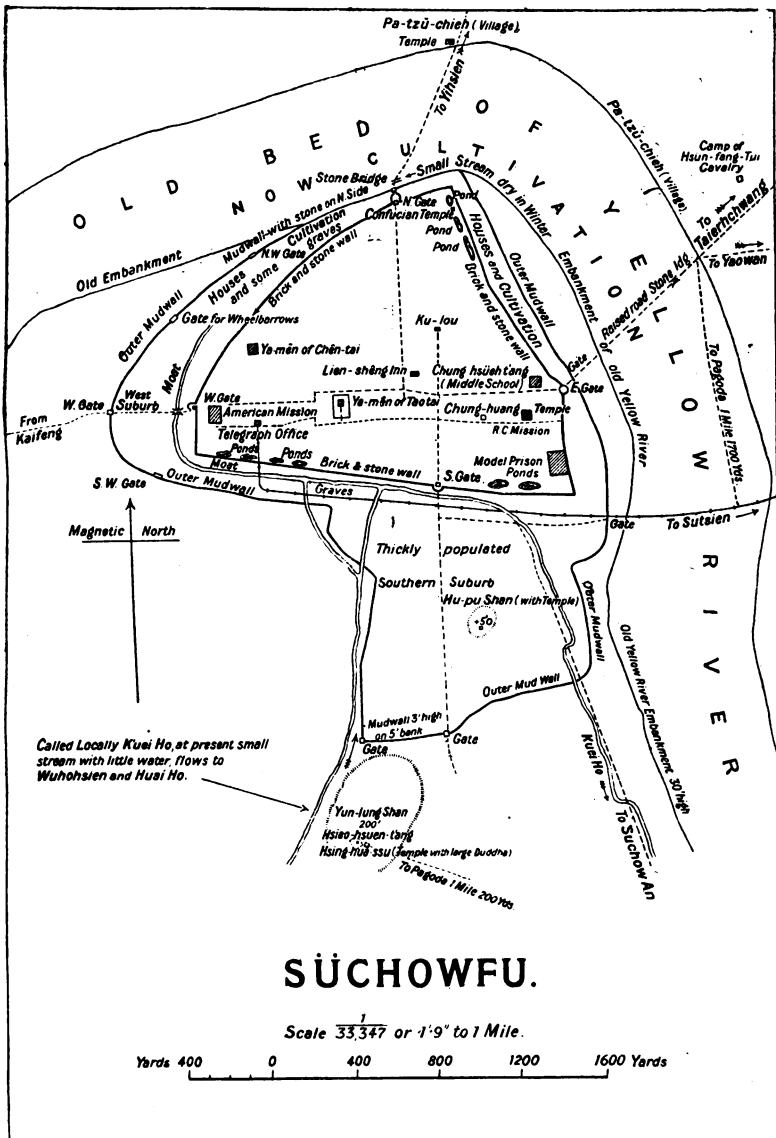
Approximate { Latitude, 34° 12'.  
Longitude, 117° 20'.  
Height, sea-level.

*Authority* : mainly G. E. Pereira, 1908.

*The City.*—Süchowfu, recently officially named T'ung-shan-hsien and called on the railway Hsuchowfu, lies below the level of the old Yellow River bed, which before 1852 flowed past the city. The river came at that time from a direction slightly south of west, and passing the north wall, made a sharp bend to the south, and skirted the outer mud wall of the city. The city is surrounded by the usual wall, 25 to 30 ft. high, in good repair. The northern part is principally of stone, but in the other parts there is a larger proportion of brick. The walls on the inside are faced with stone, and there is a good walk along them about 12 ft. wide, with battlements 10 to 12 ft. higher. At the SE. corner the part of the wall at the back of the model prison is railed off.

The four city gates have double entrances, the outer ones of the South and West Gates facing south, those of the East and North Gates facing north and east respectively. In addition to the main city wall there is an outer mud wall which the Chinese state was built as a protection against robbers. It is, however, apparently useless for such a purpose, and is more likely to have been intended as an extra barrier against the old Yellow River. The greater part of this wall on the north and east side is faced with stone, and about 30 ft. high, but on the south side it consists of only 3 or 4 ft. of masonry on the top of an embankment. Between the city and the mud walls the distance for the most part varies between 50 and 150 yds. At the South Gate, however, the interval widens out to 1,200 yds. and at the West Gate to 400 yds., enclosing in each case a thickly populated suburb. Elsewhere it contains a few houses, gardens and graves.

The houses are mostly of mud, and the streets paved with



uneven stones. The city contains very little waste land, a few ponds only in places near the walls, especially round the Confucian temple in the NE. corner.

The missionaries estimate the population variously from 100,000 to 150,000, the latter being probably nearer the correct figure. The magistrate gave the number of houses as 14,828. The city walls are slightly over 3 miles in circumference.

Süchowfu is an important entrepôt for merchandise from East Honan, South Shantung, and North Anhwei. It is in a country of considerable mineral wealth, and its importance is likely to be enhanced when the railway east and west is completed.

*Surrounding Country.*—The city is surrounded by hills and plains, the latter principally on the SE., SW., NNE., and W., whilst the former are mostly to the S. and SW., with ranges (running NW.) to the NW. and NE.

*Supplies.*—The missionaries state that the country to the NW. is densely populated, and that it is a great wheat-producing country. The chief cereal here also is wheat, whilst barley and opium (less now than formerly) are amongst the first crops; beans, millet, and kao-liang form the second.

*Transport.*—Wheelbarrows are the principal means of transport, but a good many pack-donkeys are used. Ponies and mules are not very plentiful. Many roads (ta-lu) radiate from Süchowfu.

*Government.*—The chief civil official is the Tao-t'ai. There is a police force, supposed to be organized on modern lines, and there is a model prison in the SE. corner of the city, similar to that at Paotingfu in Chihli, where the prisoners are properly looked after, and employed on useful works, for which they receive some remuneration.

In 1908 a *chên-t'ai* (major-general) had his *yamên* in Süchowfu, and there were a considerable number of troops in camps in the city and district. Süchowfu has a great reputation as a recruiting-ground, and most of the soldiers at Tsing-kiangpu came from this neighbourhood.

*European Residents.*—Inside the West Gate is a branch of the American Presbyterian Mission (Southern) numbering about twelve members, men and women; and the French Jesuits have a mission inside the East Gate.

*Communications.*—The K'uei Ho, a small stream rising in a lake to the south of the city and to the SW. of the Yün-lung Shan, flows north into the south suburb, where it joins the small moat which starts from the NW. corner of the city. It passes the South Gate near the wall, and then turning SE. flows out past the mud wall and on to the South. Small boats can go when the water is high from here to Wuhohsien in Anhwei. This stream appears to be the commencement of the Ch'ung Ho, which flows past Süchowfu.

There is a canal from the Wei-shan (or Yi-shan) Lake eastwards, passing south of the village of Mao-ts'un, and running into the Grand Canal. It is navigable from Ta-wu-chi when the water is high, or from Chu-chia-wan when low, but not between either of these places and the lake.

The telegraph office is in the SW. corner, and the line crosses the south wall  $\frac{1}{2}$  mile west of the South Gate, and then runs east through the south suburb; and after crossing the old bed of the Yellow River runs NE. and NNE. to Hanchwang on the Grand Canal.

The Tientsin-Pukow Railway passes on the east of the city, and now that the line via Kaifeng to Chengchow on the Peking-Hankow line has been completed, Süchowfu has become an important junction. The line east to Tsingkiangpu is under construction.

Süchowfu is on the great road from Peking to Nanking. This road forms a trade route for carts south, past Nan-hsü Chou, as far as the north part of Linhwaikwan (port of Fengyang) on the Huai River.

Another route is that SE. to Tsingkiangpu. Carts can also go northwards, via Hanchwang, Yih sien, Ichowfu to Weihsien in Shantung; but they cannot be hired at intermediate places, unless one should be met with by chance returning empty to Süchowfu or Weihsien.

*Distances from Süchowfu*

		miles	
To Haichow and Sinpuchen	by land	179	Route 31 A
via Ichowfu			
Ichowfu	„	103 $\frac{3}{4}$	„ 31 A
Kanyü	„	155 $\frac{3}{4}$	„ 31 A
Yih sien	„	48 $\frac{3}{4}$	„ 31 A
Tsingkiangpu	„	124 $\frac{1}{2}$	„ 33 A
„	by land and water	140	„ 33 C
Linhwaikwan	by land about	116	„ 34

**SUNGKIANGFU**

Approximate	{ Latitude, 31° 1'.
	{ Longitude, 121° 17'.
	{ Height, sea-level.

*Authority* : mainly Military Report on the Province of Kiangsu (South), 1909.

Sungkiangfu, locally called Sung-kang, and on the railway Sung-kiang, lies about 20 miles south-west of Shanghai. It has recently been officially named Sung-kiang-hsien.

*The City.*—The city is of irregular shape, about 3 miles in perimeter. It is surrounded by a wall built of brick, though in places the lower part is of stone. The wall is on the average about 25 ft. high, and is backed up on the inside by a bank 5 ft. lower than the wall and 15 ft. thick. Near the West Gate this bank is revetted with brick on its inner side, but for the most part it is not revetted and is easily accessible from the inside. The city is entered by four gates, the North, East, South, and West Gates. Each gate is defended by a wall similar to the city wall, enclosing a semicircle of 30 yds. radius in front of the gate, the entrance to this space being by a side gate. At the North Gate the entrance is on the west side, at the East Gate the entrance is on the south side, at the South Gate it is on the east side, and at the West Gate

it is on the south side. At each gate there is a water-gate by which small boats can pass under the wall and enter the city.

Outside the wall, at a distance of from 20 to 30 yds., is a moat which is 12 to 15 yds. wide on the west and south-west sides, but not more than 6 to 8 yds. wide on the north, east, and part of the south sides. This moat is deepest on the west side, but even here it is only 3 ft. deep at high tide and about  $1\frac{1}{2}$  ft. at low water. On the east side there is not more than 1 ft. of water at low tide. The moat is crossed by a bridge at each gate.

Inside the city most of the houses are in the western part, the eastern portion being largely taken up with plantations of bamboo. There is a large suburb of many hundred houses outside the West Gate, and smaller suburbs outside the North and East Gates, as well as along the south face of the city.

The population is estimated at 50,000. The chief products are rice, cotton, cocoons, and silk. The Shanghai-Ningpo railway touches Sungkiangfu, the station being close to the south wall.

*Surroundings.*—The city is surrounded by flat country, highly cultivated, full of houses and villages, and much cut up by creeks. From the North Gate round to the East Gate there are almost continuous thick plantations of bamboo outside the moat. A group of hills lies about 5 or 6 miles north-east of the city.

*Supplies.*—Large supplies of fish, chickens, ducks, eggs, rice, and vegetables are obtainable.

*Transport.*—Boats are practically the only means of transport used. Wheelbarrows do not exist. Most of the boats are to be found near the West Gate, but the waterways leading to Sungkiangfu are so shallow that large boats are very scarce.

*Government.*—In 1909 Sungkiangfu was a city of the Fu class, subordinate to the Tao-t'ai of Shanghai. The city was also the headquarters of the Hsien districts, Hua-t'ing Hsien and

Liu Hsien. Besides these two districts, Sungkiangfu had under it: Ch'uan-sha Hsien, Fêng-hsien Hsien, Chin-shan Hsien, Shang-hai Hsien, Nan-hui Hsien, and Ch'ing-po Hsien. Sungkiangfu was the headquarters of the *T'i-tu* or provincial commander-in-chief of Kiangsu. There was a garrison. The main powder-magazine for the province is in this city. It is surrounded by a wall 200 yds. square and 12 ft. high, and is situated in the south-east part of the city, 200 yds. from the wall.

*Foreign Residents.*—There are branches of the American Protestant Episcopal Church Mission, and the Methodist Episcopal Church Mission, South, U.S.A.

*Communications.*—Apart from the railway, the best route to Shanghai is by a creek which leaves the moat between the South Gate and the south-west corner of the city, and runs southward to the Huang-p'u River  $2\frac{3}{4}$  miles distant, whence launches can run to Shanghai. Another route is by Szeking and the Sikawei creek, but it is impassable for launches. A launch which runs daily from the Chinese Bund in Shanghai takes neither of these routes, but goes up the Huang-p'u to the next side-creek beyond that described in Route 6 A and turns up it for 1 or 2 miles to Hsiao-chiao (Siao-ko), where passengers go by small boat to the West Gate. There is no village at Hsiao-chiao.

There are post and telegraph offices in Sungkiangfu.

*Distances from Sungkiangfu*

	miles	
To Shanghai (via Huang-p'u River)	32	Route 6 A
„ (via Sikawei Creek)	$29\frac{1}{4}$	„ 6 B
Pinghu	29	Routes 3 C, 3 A, and 6 A
Kashing	$37\frac{1}{2}$	Route 3 D

**TAICHOW KU.** (See Plan)

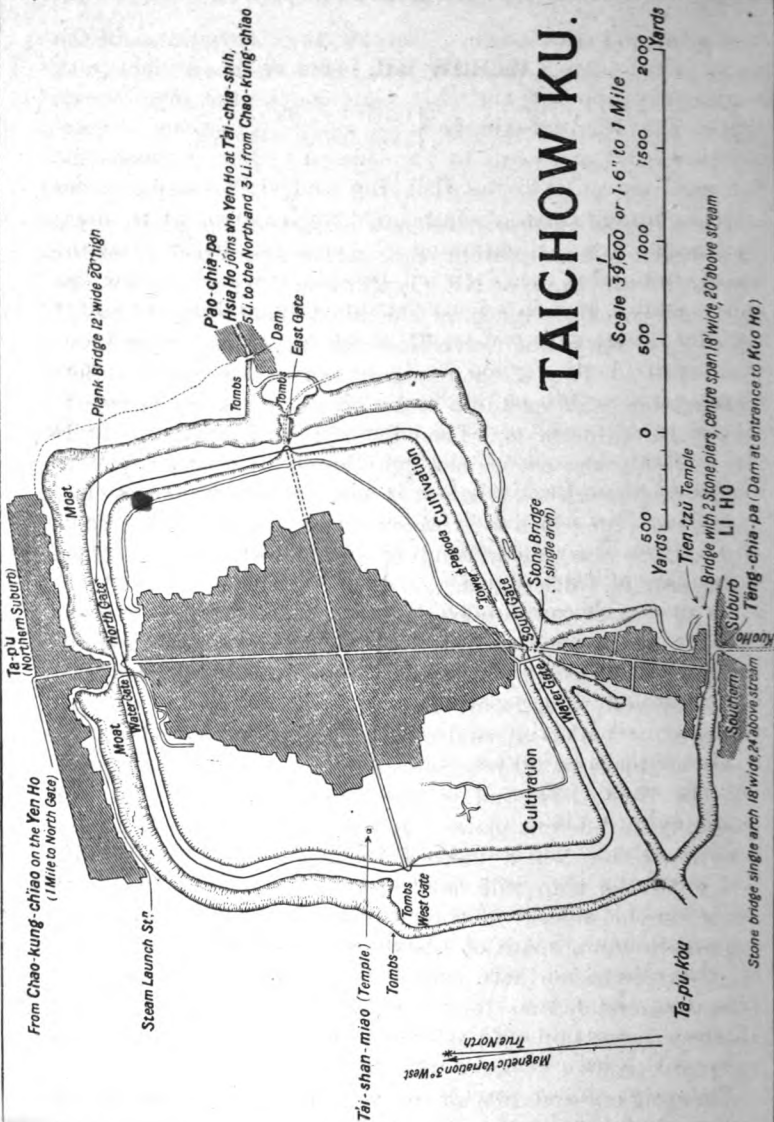
Approximate  $\begin{cases} \text{Latitude, } 32^{\circ} 28'. \\ \text{Longitude, } 119^{\circ} 52'. \end{cases}$

*Authority* : mainly G. E. Pereira, 1908.

*The City and Suburbs.*—Taichow Ku, recently officially named T'ai-hsien, is an important city : as the salt, which is brought in small boats from the NE. (Tungtaihsien, Yencheng Ku, &c.) by the Yen Ho (No. 2), is landed at Chao-kung-ch'iao, 3 li (1 mile) north of the North Gate. It has to be carried thence overland to Ta-p'u, the western half of the north suburb, where it is re-shipped into larger boats, and taken by the city moat to Ta-p'u-k'ou. From here it goes down the Li Ho, to Liu-cha, and thence through the Grand Canal via Yangchow to Shiherhwei, where it is again transferred to the large salt-junks, in which it is taken up to the Yangtse. Ta-p'u (or, as it is also called, Yen-p'u) is, therefore, the most important part of Taichow Ku.

The city is surrounded by a moat connecting with the Li Ho at Ta-p'u-k'ou about 400 or 500 yds. from the SW. corner, where it is about 40 yds. wide. Following the course of the west wall, from which it is about 100 or 150 yds. distant, it makes a bend outwards opposite the West Gate and broadens to 70 yds. It again bends inwards just north of the West Gate, and is here from 100 to 200 yds. wide, varying in different places. It follows the city wall round to the north side, which it skirts throughout its length. A reference to the plan will show how, immediately opposite the gate on this side, it narrows down to a channel about 12 ft. in width for a space of about 60 or 70 yds., and how the houses of the northern suburb approach the city wall along the tongue of land thus formed. The water flows in an easterly direction and is about 2 ft. deep, passing under a plank bridge opposite the North Gate. The channel is a winding one and difficult to navigate except in a small boat. At its eastern end the channel again opens out to 150 yds.



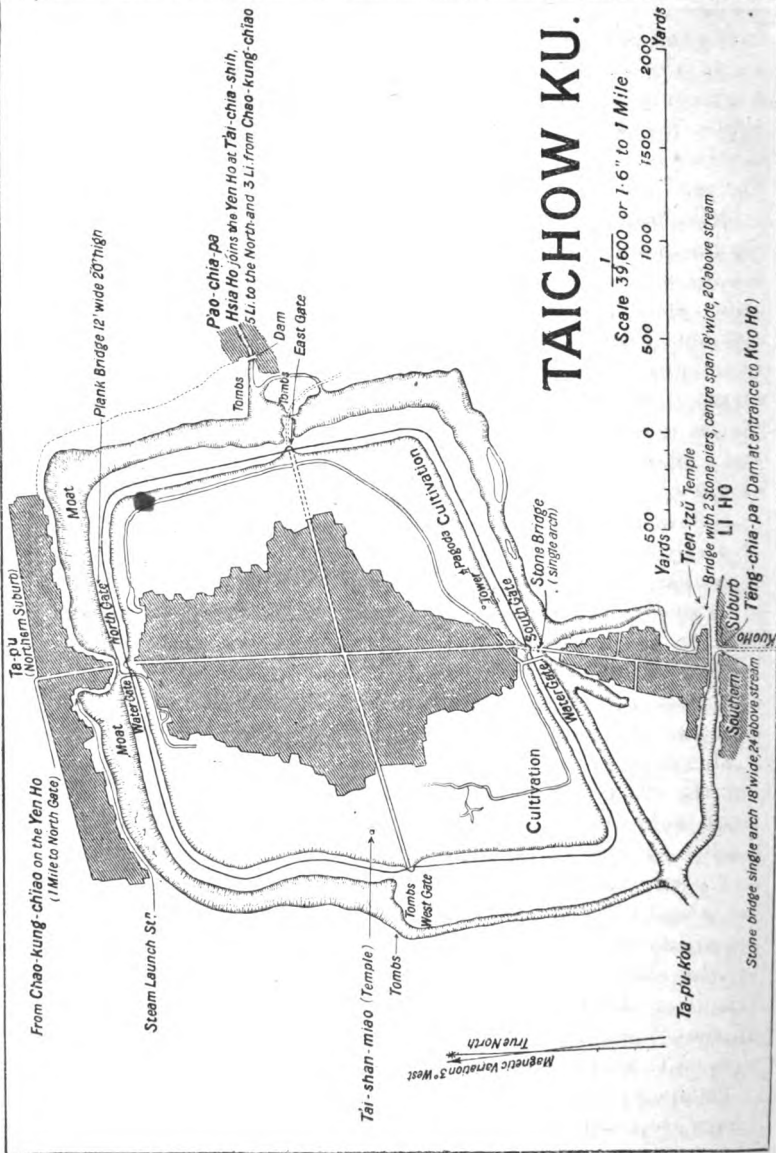


in width, and is called the T'ien-tzū Ho. It continues of the same width along the east wall; but a broad dam with a roadway opposite the East Gate blocks the main moat, whilst the T'ien-tzū Ho finds an outlet by making a semi-circular bend eastwards to Pao-chia-pa. Here it passes the dammed entrance to the Hsia Ho, and after passing under a stone bridge (with a single arch, 20 ft. span, 24 ft. high) rejoins the moat. Continuing its course round the walls the main channel of the T'ien-tzū Ho, just before reaching the South Gate, winds in a southerly direction, and flowing under a stone bridge of two masonry piers, with centre span 18 ft. wide, 20 ft. high, it joins the Li Ho at the T'ien-tzū Temple, about  $\frac{1}{2}$  mile south of the South Gate. The smaller channel of the moat passes under a small stone bridge just outside the South Gate, and opening out again joins the continuation of the moat on the west, just before reaching Ta-p'u-k'ou.

Taichow Ku has the usual battlemented brick wall, about 30 ft. high, in good repair, and with four gates, each having a double entrance, the outer being straight in front of the inner ones. There is a broad walk along the top of the walls; that on the north, west, and south sides being each about 2,000 yds. long, and that on the east about 1,500. There is a fairly broad belt of cultivation inside the walls; on the north side there are a certain number of houses built on it.

The north and centre of the city are thickly built over, but the chief business quarter is in the western part of the north suburb (Ta-p'u), north of the moat. There is also a south suburb, partly on the island south of the South Gate, and partly on the south bank of the Li Ho. The two parts are joined by a single-arch stone bridge over the Li Ho, with a span of about 18 ft. and a height of about 24 ft. The village of Pao-chia-pa is not considered as an eastern suburb. Including the north and south suburbs, the population of Taichow Ku is probably about 70,000. Houses are mostly of stone with tiled roofs.

The T'êng-chia-pa dam is 70 or 80 yds. to the east of the bridge over the Li Ho. It is of earth, 27 yds. long and



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12 yds. wide, with barricades of planks on either side blocking the small entrance to the Kuo Ho, the creek which goes to Kowan and flows into the Yangtse. Small boats wishing to get from the dam to Taichow Ku have to go by the Shih Ho, which flows into the Kuo Ho at Shih-fang-k'ou (5 miles south of the T'êng-chia-pa). This river is followed to the west and north till the Li Ho is reached at Yen-k'ou, 4 miles west of Ta-p'u-k'ou.

There are several large temples inside Taichow Ku, the most conspicuous being the T'ai-shan-miao on a mound, 100 ft. high, about 250 yds. ENE. of the West Gate. There are also large temples near the western part of the north wall, and near the eastern part of the south wall. Other conspicuous objects are a three-storied pagoda, 583 yds. west of the SE. corner of the city, and a temple tower 240 yds. west of the same.

There are water-gates just west of both the North and South Gates from which a network of small canals traverse the city.

Steam-launches plying on the Li Ho go up to Ta-p'u and anchor for the night, entering by the Ta-p'u-k'ou entrance. Successful flour-mills have been recently established here.

*Surrounding Country.*—Taichow Ku lies in a flat and highly cultivated country, covered with many villages among trees. It is intersected by a regular network of rivers, canals, and creeks. Except for T'ai-shan-miao hill inside the West Gate, and a small area of undulating ground to the east of the East Gate, it is everywhere flat.

*European Residents.*—There are chapels built by the Jesuit and American missionaries; and the latter (American Presbyterian Mission, Southern) have three resident representatives.

*Communications.*—The Yen Ho (No. 2), with current flowing east, begins at Chiu-li-kou on the Li Ho (1½ miles west of Ta-p'u-k'ou), connexion with the latter river being blocked by a stone dam. At mile 2 the Ta Ho branches off N. to Hinghwa; at mile 4 it passes through Chao-kung-ch'iao, and is joined 3 li farther east by the Hsia Ho at T'ai-chia-shih (called locally, T'ai-chia-sa). This village is between the south bank of the Yen Ho and the west bank of the Hsia Ho. (The Hsia

Ho is a small creek only 5 li long, starting at P'ao-chia-pa, opposite the East Gate of Taichow Ku, where it is blocked by a dam.) The Yen Ho continues in an easterly direction, passing in its 10th mile Yüsi (pronounced locally Yü-ch'i), and in its 20th Tsintung, a town of 2,000 houses, both on the south bank. On the eastern side of Tsintung, the Huang-ts'un Ho, flowing from Huang-ts'un, a town 13½ miles distant on the Li Ho, joins the Yen Ho, and permits of free navigation between the two latter rivers, unhampered by dams. The Yen Ho after another 20 miles reaches Tungtaihsien, and continues to Yencheng Ku. Small steam-launches ply on it between Chao-kung-ch'iao and Yencheng Ku, and also on the river from Chao-kung-ch'iao to Hinghwa.

At Yencheng Ku the Yen Ho from Taichow Ku to Tungtaihsien and the Ch'uan-ch'ang Ho from Tungtaihsien to Yencheng Ku are also known as the Yün-yen Ho (or Salt-transport river). Salt-boats come to Taichow Ku in large numbers.

There is a post and telegraph office in Taichow Ku.

*Distances from Taichow Ku*

		miles		
To Hai'an	by water	40½	Route	22
Siennü-miao	"	23½	"	22
Liu-cha	"	31½	"	22
Yangchow	"	40½	"	22
Tungchow	"	98½	"	22
Kowan	by land about	10	"	23 A
"	by water	" 21	"	23 B
"	by water, alternative route	" 31½	"	23 C
Yencheng Ku	by the Ta Ho	" 76	"	24 A
Hinghwa	"	" 36	"	24 A
Yencheng Ku	by the Yen Ho	" 94	"	24 B
Tsintung	"	" 20	"	24 B
Tungtaihsien	"	" 41½	"	24 B
Yencheng Ku	Li Ho and Huang-ts'un Ho	106½	"	24 C

**TAITSANG.** (See Plans)

Approximate	{ Latitude, 31° 26'.
	{ Longitude, 121° 9'.
	{ Height, sea-level.

*Authority* : Military Report on the Province of Kiangsu (South), 1909.

Taitsang, locally called T'a-ts'ang-tseu, is a walled city of the usual type, and an independent sub-prefecture. It has recently been officially named T'ai-ts'ang-hsien.

The walls are about 25 ft. high, 5½ miles in perimeter, in good repair, and are surrounded by a moat 5 to 20 yds. wide and 2 to 8 ft. deep. There are extensive suburbs outside the West and North Gates.

The surrounding country is a flat plain intersected by numerous waterways.

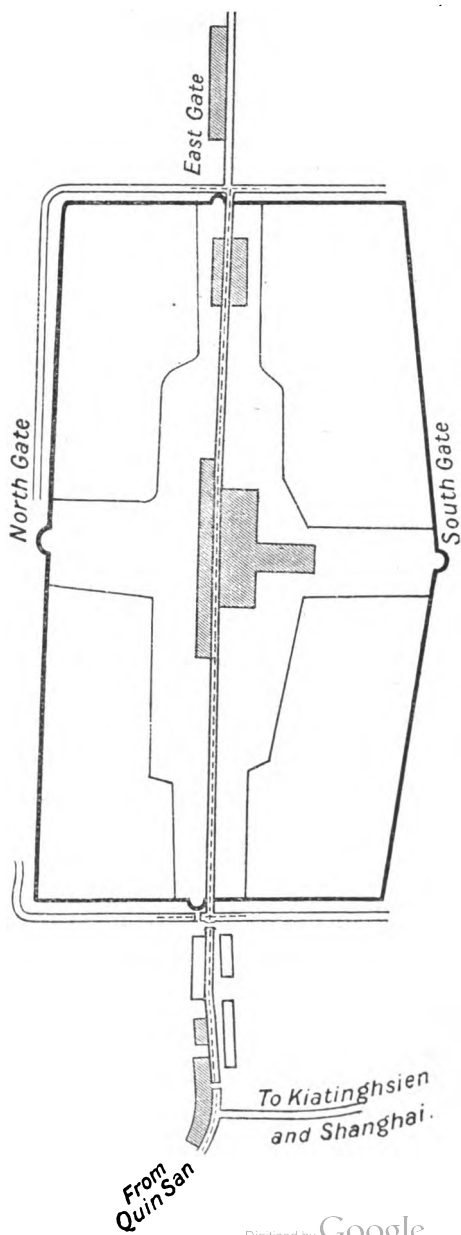
*Communications.*—There are regular launch routes to Shanghai and Changshu Ku, with alternative routes to Shanghai which are passable for boats of limited draft (see routes). The country by these alternative routes is fairly dry and passable; but the communications round Taitsang are mainly by water. It is connected by a creek with the Yangtse at Liu-ho-k'ou (see plan).

There is a post office in the city.

*Distances from Taitsang*

		miles	
To Kiatinghsien	by water	17	Route 7 D
Kunshan	„	8	Routes 5 B and 7 A
Shanghai :			
via Three Waters	„	54	Route 7 A
via Hwangtu	„	43½	„ 7 B
via Four Waters	„	46	„ 7 C
via Kiatinghsien	„	42	„ 7 D
Liu-ho-k'ou	„	22	„ 7 E

# TAITSANG.



Sketch Plan. Dotted lines in canals show where boats are likely to be found. Shading shows business quarters.



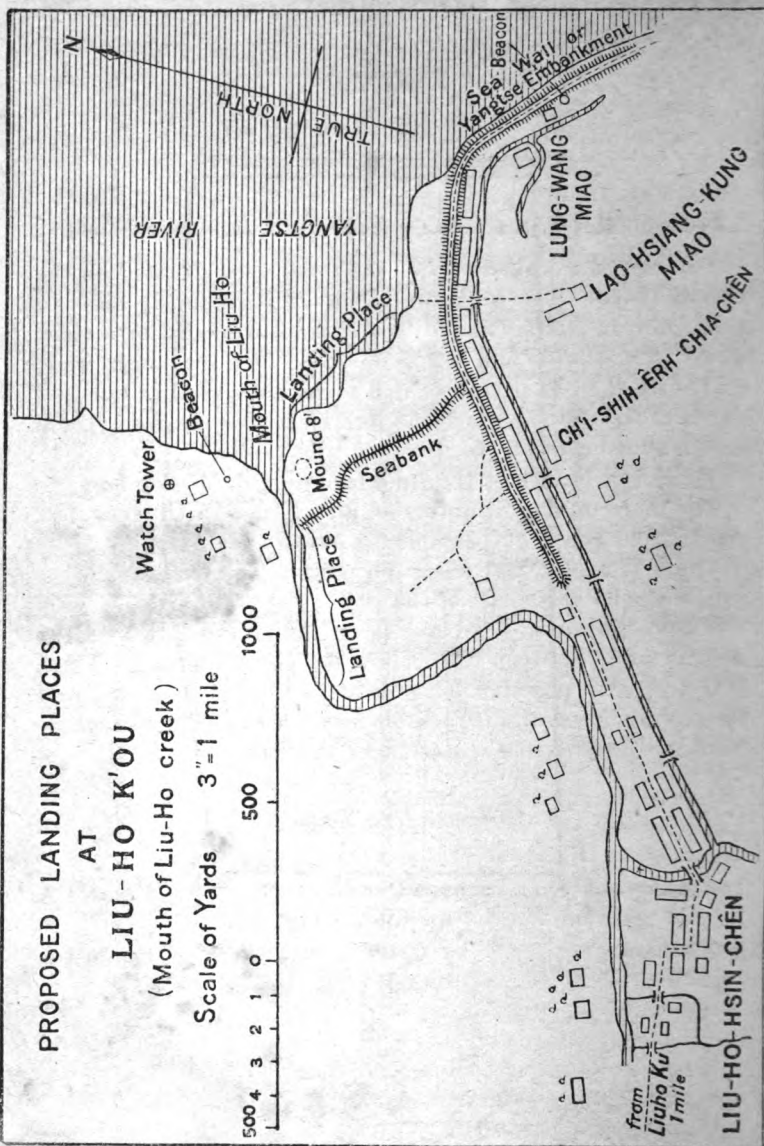
# PROPOSED LANDING PLACES

AT

## LIU-HO K'OU

(Mouth of Liu-Ho creek)

Scale of Yards 3" = 1 mile



## TANYANG

Approximate { Latitude, 31° 59'.  
 Longitude, 119° 35'.  
 Height, 50 ft.

*Authority:* Military Report on the Province of Kiangsu (South), 1909.

Tanyang is a walled city of the usual type situated on the Grand Canal. The walls are about 20 ft. high,  $3\frac{1}{2}$  miles in perimeter, in indifferent repair, and are surrounded by a moat 10 to 15 yds. wide and 3 to 5 ft. deep. On the south, west, and north there is ground as high as the walls within a hundred yards of the city, of which the interior is commanded. There are small suburbs on the west and south sides.

There is a branch of the American Church Mission here.

The surrounding country is undulating, with very few creeks, and generally passable for cavalry and infantry.

There is a post and telegraph office. The railway station is half a mile north-east of the city.

*Communications.*—Tanyang is on the Grand Canal on the regular route between Changchow Ku and Chinkiang. There is a towpath passable for animals and wheelbarrows, and the country generally is passable for all arms. The Shanghai-Nanking Railway has a station at Tanyang.

*Distances from Tanyang*

		miles	
To Changchow Ku	by water	27	Route 1 A
„	by rail	27.83	
Chinkiang	by water	20 $\frac{1}{2}$	Route 1 A
„	by rail	18.57	

**TSINGKIANGPU.** (See Maps Nos. 5 and 6)

Approximate { Latitude, 33° 36'.  
Longitude, 119° 3'.

*Authority* : mainly A. H. Hilton-Johnson, 1908.

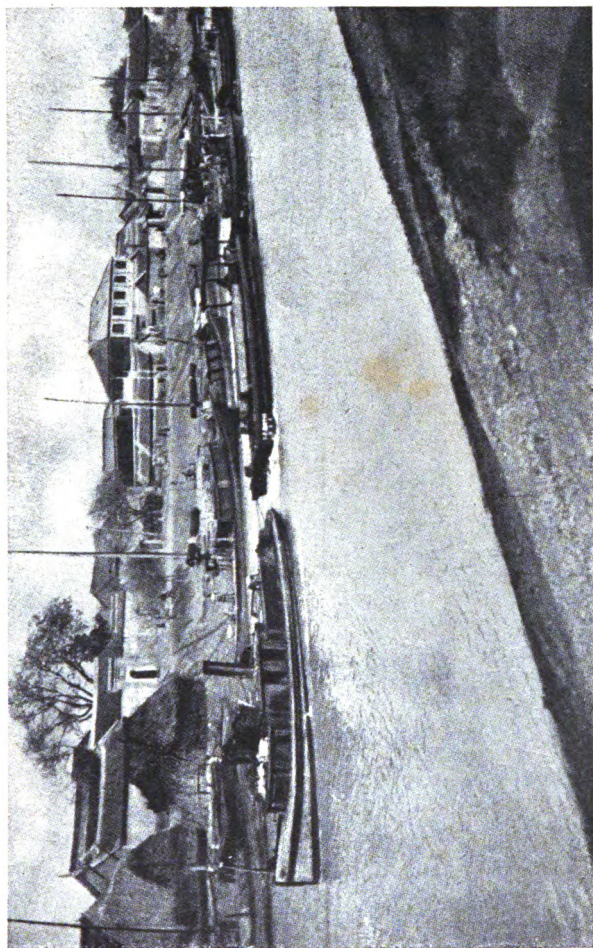
*The City.*—Tsingkiangpu is a large town on the north bank of the Grand Canal. Under its name is usually included the walled town of Ch'ing-ho-hsien or Tsingho, recently officially named Huai-yin-hsien, on the opposite bank. Population variously estimated at 100,000 to 150,000.

The canal at this point lies roughly east and west, and the trace of Tsingho (the old city) is an irregular oblong, with its northern side along the bank. The wall is about 20 ft. high, and consists of the usual stone and brick facing a few feet thick, backed to a height of 14 ft. on the inside by a bank of earth about 10 ft. wide on the top and 25 at the base. The upper 6 ft. of the facing forms a crenellated and loopholed parapet above the top of the bank. The perimeter of the wall is about  $2\frac{1}{2}$  miles, and it is in fair repair throughout.

The interior of the city is fairly evenly built over, but there is a good deal of ground under cultivation among the houses. The streets are narrow and paved with large flag-stones. The houses are either of brick or mud and have tiled or thatched roofs. In comparison with other cities in North Kiangsu, Tsingkiangpu is considered well-to-do, but it (especially the old city) is nevertheless a poor place, swarming with beggars, and subject to frequent visitations of famine.

There are five gates, two in the north wall, and one in each of the other sides, named after the points of the compass. Those on the north are single, unprotected openings in the wall; the others have small parapets thrown out to protect the main gateways. The entrances are 12 to 15 ft. wide and of equal height, and are closed at night by iron-bound wooden doors.

There are three water-gates under the walls, closed by wood or iron gratings. They are some 8 ft. square, and are usually full of water. The Grand Canal forms a moat on the



NORTH KIANGSU : TSINGKIANGPU (LAUNCH AND CARGO-BOATS)



north side, and is bridged by pontoons opposite the two gates in the north wall. On the east, there is a moat 10 yds. wide and a few feet deep with low banks, but elsewhere the original ditch round the city is for the most part dry.

Tsingkiangpu is one of the most important commercial centres on the Grand Canal. It is practically the terminus of the canal for commercial purposes, owing to the unsatisfactory condition of the waterway northwards; and the traders in almost all cases continue the journey in this direction by road. Further, it is connected by junk and launch routes along the Huai Hô and through Lake Hung-tsê with the interior of Honan and Anhwei. The two ports for Tsingkiangpu on the Yen Ho are **Wangying** and **Sipa**, each about 3 miles distant. The former is used chiefly by passenger, the latter by salt-boats (see Route 28 A). Cart-roads connect these ports with Tsingkiangpu.

*Suburbs.*—There are extensive suburbs along the canal bank outside the East Gate, and smaller ones to the south and west. The business quarter lies partly in the former, but mainly in Tsingkiangpu across the canal.

*Surrounding Country.*—The surrounding country is flat and rather broken, and on the SE. side is a vast swamp, always under water. Elsewhere, although intersected by small creeks, it is more or less passable for all arms, especially in the north. It is very open and cultivated to a certain extent, and in summer liable to inundation and floods.

The Grand Canal is here about 50 yds. wide; and besides the pontoon bridges already mentioned outside the two north gates there is a bridge about 500 yds. farther east. The lock is a massive stone construction and gives a waterway of 24 ft. The lock-gate is usually open.

Completely surrounding the whole of Tsingkiangpu is a mud wall and outer ditch a few hundred yards from the city walls, on both sides of the canal. This was originally intended for defence, and has gateways which are closed at night. Although not in itself a serious obstacle, it would still, if properly held, make the capture of the place difficult.

Outside the mud wall on the W. side, conspicuous landmarks are the flour-mill on the south bank of the canal, near the NW. corner of the walls, and the Mint near the NE. corner on the north bank. The latter is not now working, and is reported as about to be converted into an arsenal.

The best line of approach would probably be along the canal bank on the west side of the city, as there is ample cover afforded by houses and graves to within 100 yds. of the walls, and the moat is practically non-existent.

*Supplies.*—Good supplies both of food and forage would generally be obtainable. Fuel as used by the people consists of dry reeds, but certain quantities of coal and firewood are procurable. Water is plentiful from both canal and wells, but is very hard and of poor quality.

Flour-mills recently established here have not been very successful.

*Transport.*—Water transport is fairly plentiful in the shape of native boats of suitable sizes for navigating the inland waterways. About 300 are usually to be found in the neighbourhood. There are also three companies, each having an almost daily service to Chinkiang: the Chao-shang Co. (China Merchants Co.), the Tai-shêng-ch'ang Co., and the Ta-tung Co. (owned by Japanese), and a few small launches of 2 to 4 ft. draught are generally lying at the jetties near the East Gate of the city. These launches, with a fully loaded tow of large passenger-boats (of which there are always several in the same place), are capable of about 7 miles an hour in slack water. The average capacity of the passenger-boats is 160 Chinese, or about 100 troops with light baggage for short journeys in fine weather. For longer periods or in wet weather the maximum ordinary accommodation is about 70, although on emergency, at any time where seating-room only is required, these boats could carry infantry soldiers up to the number shown on the charter board for Chinese.

The ordinary means of land transport are mule-carts, wheelbarrows, and donkeys. Wheelbarrows are the most used, and probably 500 are obtainable. Mule-carts are of

the kind known in North China as the Peking cart (*chiao-ch'ê*) ; the open dray (*ch'ang-ch'ê*) is not used. These carts have two mules, and with 550 lb. of baggage will maintain a rate of about  $3\frac{1}{2}$  miles an hour for 30 miles a day. The average rate of hire per day is 1.75 dols. each. Wheelbarrows loaded with 100 lb. will maintain a rate of nearly 3 miles an hour for over 20 miles a day, and cost about 35 cts. each to hire. Donkeys are chiefly used to carry loose packages, such as sacks of grain, and would not be of much value for military transport purposes.

*Government.*—The chief local official is the Chih-hsien, or magistrate of the district of Ch'ing-ho Hsien. The place is dependent on Hwaiianfu, which is under its own Tao-t'ai residing at Hai-kuan, 4 miles south of Tsingkiangpu on the canal.

The total number of police in Tsingkiangpu and the city is about 500, divided among five stations. They are far more efficient than is usually the case. They are armed with rifles at night. The garrison is quartered in barracks outside the mud wall on the south, and in camps about  $1\frac{1}{2}$  miles to the north of the city.

The camps consist of square mud enclosures, separated from each other by a clear space of about 50 yds. In each enclosure are a number of buildings (of mud bricks), and a broad road running down the centre from north to south.

Tsingho was in 1908 the residence of the T'i-tu (general), commander-in-chief of North Kiangsu.

The chief public offices at this time were situated as follows, in reference to the road which leads from the Great North Gate to the South Gate : at the northern end on the east side was the Yamên of the Tao-t'ai, east of which again were the Armoury, Commissariat Office, and Granary ; south of the Yamên of the Tao-t'ai was that of the district magistrate, and south of this again, and on the west of the road, were the quarters of the T'i-tu.

*Foreign Population.*—The foreign population is about 30 and, with the exception of a few Japanese, is composed of



missionaries and their families. The Protestant missions represented are the American Free Methodist Mission in China, the American Presbyterian Mission (Southern), and the China Inland Mission. There are also independent workers. There are besides a hospital, a school, and an orphanage under foreign management. These institutions are near the north-east corner of the city on the north bank of the canal.

*Communications.*—Communications are good. By the Grand Canal Chinkiang is usually accessible for boats of  $3\frac{1}{2}$  ft. draught, though the service is interrupted for two of the summer months, when the water in the canal is too high. The journey is made in about 25 hours (see Route 19 (1)). N. of Tsingkiangpu navigation on the Grand Canal is impeded by locks and shallows (see Route 19 (2)). Trade is largely carried on north of Tsingkiangpu by road.

With a few miles of overland journey, Haichow becomes accessible by the Salt Canal (Yen Ho No. 1); and the majority of the important places in the province south of this latitude are also in water communication. Westward the water route through the Hung-tsê Lake and up the Huai Ho connects Tsingkiangpu with the provinces of Anhwei and Honan (Route No. 35).

By land roads radiate in all directions, but mainly northwards where the country is less intersected by waterways. To the south a good road follows the east bank of the canal for 85 miles, and thence with a break of  $1\frac{1}{2}$  miles by the west bank to the Yangtse.

There is a railway under construction from Tsingkiangpu to Süchowfu, of which  $9\frac{1}{2}$  miles (from Tsingkiangpu to Yang-chwang Ku) are already completed. The railway bridge across the canal is not yet constructed, but the connexion is made here by a ferry. This railway line is intended to extend ultimately to Haichow or the Yangtse. See chapter IX, railways VII and X.

There is a post office just inside the East Gate of the city, and a telegraph office on the north bank of the canal, near the small North Gate.

*Distances from Tsingkiangpu*

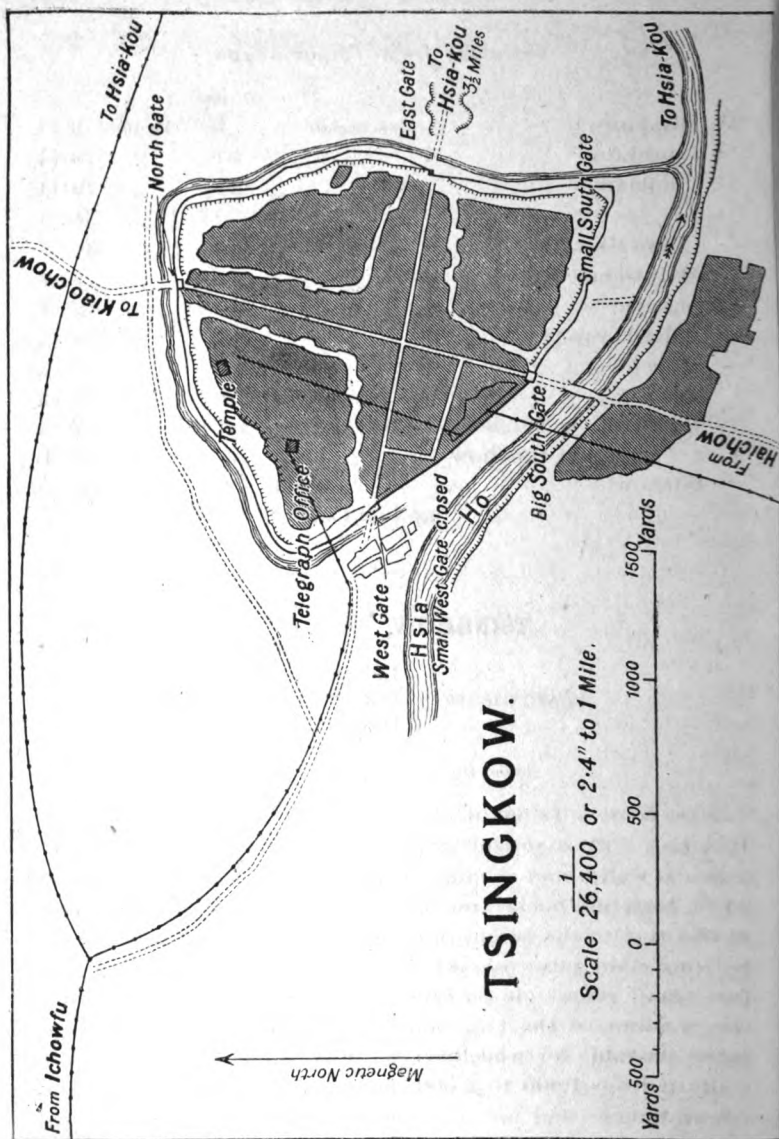
		miles	
To Hwaiianfu	by water	8½	Route 19 (1)
Yangchow	"	97	" 19 (1)
Chinkiang	"	111½	" 19 (1)
Süyi	" about	71½	" 35
Linhwaikwan	" "	150	" 35
Matowchen Ku	"	8	" 19 (2)
Sutsien	"	64½	" 19 (2)
Taierhchwang	"	120	" 19 (2)
Hanchwang	"	149	" 19 (2)
Tsining }	"	224	" 19 (2)
Ichowfu, via Sutsien	by land	142½	" 32 A
" via Haichow	"	155½	" 32 B
Süchowfu	" about	124½	" 33 A
"	land and water	140	" 33 C

**TSINGKOW.** (See Plan)

Approximate { Latitude, 34° 51'.  
Longitude, 119° 7'.  
Height, sea-level.

*Authority* : H. R. Davies, 1908.

*The Town.*—Tsingkow is an important market town under Haichow. It is roughly triangular in shape, surrounded by a brick wall about 3 miles in perimeter. The wall is about 25 ft. high and backed on the inside by a bank 5 to 6 ft. thick at the top, to the height of about 20 ft. The town is entered by four main gates passable for bullock carts. There are also two small gates, one on each side of that on the south side, the western of the two being permanently closed, and the other passable for wheelbarrows only. The town appears to contain from 1,800 to 2,000 houses. It is nearly 3 miles in circumference and has a population of about 20,000. Chief



exports (from Hsia-k'ou), beans, vegetable oils, pork, peanuts and fruit.

*Surrounding Country.*—The Hsia Ho (in March, a stream 10 yds. wide and 1 ft. deep), in a sandy bed, runs east past the South Gate of the town. It is crossed by two wooden bridges passable for wheelbarrows. The surrounding country is quite flat and open, and more or less cultivated. The port of Tsingkow is Hsia-k'ou, 3 miles east. In this part of Kiangsu the people are underfed and poor.

*Supplies.*—Supplies of the ordinary sort are obtainable, the town being a prosperous one. Water is from wells and from the Hsia Ho. Some of the well-water is brackish.

*Transport.*—Carts drawn by two or three bullocks or buffaloes are to be obtained to the number of about 200. Wheelbarrows are also extensively used. No boats come up the river to Tsingkow, but at Hsia-k'ou, the port, 80 junks were counted in the river, and 60 more were anchored 1 or 2 miles out to sea.

*Government.*—Tsingkow is governed by a Hsün-chien (Assistant Magistrate), subordinate to Kanyü. There are about a dozen police in the town.

*Communications.*—Wheelbarrow roads lead southward to Haichow and Sinpuchen, and northward through Jihchaohsien to Kiaochow. The road to Ichowfu westward is passable for carts. That running eastward to the port of Hsia-k'ou, a village of about 80 houses, is largely used by bullock carts. This place is at the mouth of the Hsia Ho, here a stream only 10 or 15 yds. wide, with water enough at spring tides to admit junks drawing 7 ft. at high tide. At neap tides there is a depth of only 5 or 6 ft. At low tide the river is nearly dry, and junks lie on the mud. Junks which are too big to come in lie 1 or 2 miles out, and their cargo is transported to the shore in boats. Hsia-k'ou is separated from the sea by about a mile of soft mud-flats. It is little frequented by steamers, and the trade is in the hands of natives.

There is a post office at Tsingkow, and telegraph offices there and at Hsia-k'ou.

*Distances from Tsingkow*

		miles	
To Haichow	by land	19	Route 30 A
Sinpuchen }			
Jihchaohsien		48	„ 30 A
Kiaochow	„	124	„ 30 A

**TSINGPUHSIEN**

Approximate	{ Latitude, 31° 10'.
	{ Longitude, 121° 7'.
	{ Height, sea-level.

*Authority:* Military Report on the Province of Kiangsu (South), 1909.

Tsingpuhsien is a city and district about 20 miles west of Shanghai.

*The City.*—The city is of irregular shape, about  $1\frac{1}{2}$  miles in perimeter. The wall is made of brick with a stone foundation. It is about 20 ft. high and 2 ft. thick, backed up on the inside by a bank 15 ft. high and 15 ft. thick. The bank is not revetted on the inside, and so is easily accessible anywhere from the interior of the city.

At a distance of from 2 to 10 yds. from the wall is a moat 20 to 40 yds. wide and 4 to 12 ft. deep. The shallowest places are at the North, East, and Small West Gates. The city has five gates—the North, South West, Great West, South and East Gates. At each of these, except the East Gate, there is a water-gate by which boats can pass under the wall and enter the city. At each gate the moat is crossed by a single-span wooden bridge on stone abutments. Each gate is protected in front by a wall similar to the city wall, enclosing a semicircular space of 20 yds. radius. The entrance gate to this semicircular space is, in the case of the North and South Gates, almost directly in front of the main city gate. In the other three gates it is at the side, being on the south side of the Small and Great West Gates, and on the north side of the East Gate.

The city is fairly well filled with houses, though there is also some cultivation. Outside the North Gate is a suburb of 100 houses, and outside the Small West Gate another of 50 houses. Altogether, inside and outside the walls, the city probably contains about 1,000 houses.

*Surrounding Country.*—The surrounding country is quite flat, highly cultivated, full of villages and farms, and much cut up by creeks.

*Supplies.*—Supplies of rice, flour, vegetables, fish, and pork are obtainable in considerable quantities. Tsingpuhsien, however, is not a large commercial place, and larger supplies would probably be obtainable at the market town of Chukiakio,  $3\frac{1}{2}$  miles to the south-west.

*Transport.*—Boats are the only means of transport used. No large quantities of boats are available here. The largest number collect near the South Gate, but even here only 20 were counted, of which the majority were about 10 to 20 ft. long and 3 or 4 ft. wide. There are no wheelbarrows.

*Government.*—Tsingpuhsien is a city of the Hsien class, the official being subordinate to Sungkiangfu. The military mandarin is said to be a Shou-pei (Captain) with a few soldiers under him for police purposes.

*European residents.*—The American Protestant Episcopal Church Mission has a branch here.

*Communications.*—The main launch route to Shanghai is that which leads northwards and joins the Soochow creek at Ssü-chiang-k'ou. Another route used by boats, although impassable for launches, goes eastward from the East Gate and joins the Sikawei creek near Szeking. It is also possible to reach Shanghai by going westwards through Chukiakio to the Wan-yü-t'ang lake, whence a water route goes off south-east by the Mao Hu to the Huang-p'u river, which it reaches 5 miles south-west of Sungkiangfu. From the South Gate a creek leads through Kuang-fu-ling to Sungkiangfu. From the great West Gate a launch route goes to Chukiakio, whence a creek, always passable for boats of 3 ft. draught, runs to Pingwang on the Grand Canal. There is a post office.

*Distances from Tsingpuhsien*

To Shanghai via Ssü-chiang-k'ou and Soochow Creek, 33½ miles. Route 4 B.

To Shanghai via Szeking and Sikawei Creek, about 32 miles. Route 6 B.

To Chukiakio, 3½ miles. Route 4 B.

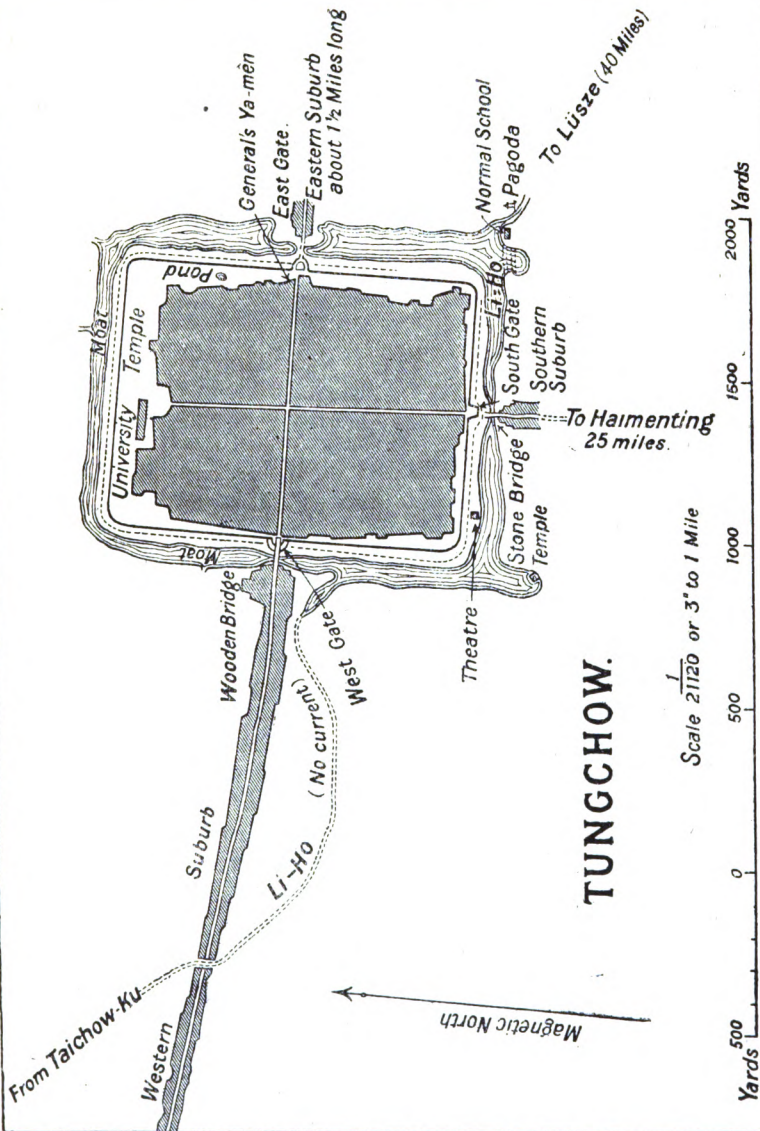
**TUNGCHOW.** (See Plan)

Approximate { Latitude, 31° 59'.  
                  { Longitude, 120° 54'.

*Authority* : mainly G. E. Pereira, 1908.

*The City and Suburbs.*—Tungchow, recently officially named Nan-t'ung-hsien, is 5½ miles by wheelbarrow road from the West Gate to Lao-lu-ching-chiang, its port on the Yangtse. The city is surrounded by the usual battlemented brick-wall, about 30 ft. high and in good repair, with a track about 12 ft. wide, paved with bricks running along the top of the interior embankment. Outside the walls there is a belt of land in most places 30 to 50 yds. wide, in others somewhat wider, with a few houses, trees, and bamboo clumps standing on it. Beyond this belt is a moat, for the most part over 100 yds. wide, but opposite the gates it narrows to under 10 yds., and is crossed by single-span bridges, that at the West Gate of planks and that at the South Gate of stone.

The Li Ho (or as it is occasionally called the Yen Ho) passes through this moat, through the west suburb (where it is crossed by a small single-arch stone bridge), and on to Taichow Ku, and joins the Grand Canal near Yangchow. On the other side, it leaves the moat at its extreme SE. corner (to the east of the Normal School), and after going south for a few hundred yards, turns east to Lüsze, some 53 miles distant. Two or three small and foul canals in the city join the moat just south of the East Gate, passing under a water-gate. A temple near the north wall takes the place of a North Gate. The gates on





the east and west are double, with the outer entrances at right angles to the inner ones. The South Gate has a triple entrance, the centre one being at right angles to the other two. This gate leads to Haimenting, some 25 miles distant. The low but conspicuous hill (Lang Shan) with a pagoda on it is SSE. of the city and 6 or 7 miles distant.

Tungchow is roughly 1,100 yards from north to south, and 850 yards from east to west. There is very little waste space in it, and the houses are built of brick with tiled roofs. The suburb on the west is narrow and over a mile long; that on the east is somewhat similar. On the south the suburb is rather smaller, and on the north there is none at all.

Tungchow has some importance on account of its cotton market. It is a progressive industrial centre with cotton and silk-spinning, and weaving factories, a mill for extracting oil from cotton-seed, a dyeing factory for cotton and silk fabrics, a canning factory for meat and fish, and other industries.

Tungchow is the centre of a thickly populated district, and including the suburbs probably contains 60,000 to 70,000 inhabitants.

*Surrounding Country.*—The country is flat and much cultivated. It is intersected by canals and trenches, restricting movement to the paths, which are available for wheelbarrows. It is full of villages and isolated houses, and trees are numerous especially to the south. The Lang Shan hill and pagoda to the SE. form a conspicuous landmark.

*Supplies and Transport.*—Very large quantities of rice, flour, vegetables, fish, chicken, ducks, and eggs are to be got in Tungchow. There are flour-mills in the town.

A large number of boats and wheelbarrows are obtainable.

*Government.*—Tungchow is the resident of a major-general (chên-t'ai), who has command of four camps of river guards (shui-shih) and three of militia. There is a body of police, supposed to be on modern lines.

There are two schools on modern lines; the superior school (kao-têng hsüeh-t'ang) near the north wall, a two-storied building, and the normal school (shih-fan hsüeh-t'ang) outside

the south-east wall. There are two pagodas, one near the superior school and the other east of the normal school.

*European Residents.*—There is a missionary of the Foreign Christians Mission living at the west end of the west suburb, and the Jesuits have a native mission in the east suburb.

*Communications.*—Tungchow is connected with its port, Lao-lu-ching-chiang on the Yangtse, by a fairly good road much used by wheelbarrows. It is 8 ft. to 15 ft. wide, but liable to become heavy after rain. Steamers on the Yangtse going down from Chingkiang to Shanghai stop at T'ien-shêng-chiang, about  $2\frac{1}{4}$  miles farther up the north bank, where the steamship companies have constructed landing-stages.

The water route by the Li Ho or Yen Ho (see Routes 20 B and 22) runs east to Lüsze and west to Taichow Ku and Siennümiaio, and is regularly navigated by launches of the Ta-ta Company in both directions.

There is a post office and a telegraph office at Tungchow.

*Distances from Tungchow*

		miles	
To Lao-lu-ching-chiang	by land	$5\frac{1}{4}$	Route 20 A
Lüsze	water	53	„ 20 B
Fowning	land about	$222\frac{1}{2}$	„ 21 A
Haian	water	58	„ 21 B
Tungtaihsien	„	84	„ 21 B
Yencheng Ku	„	$136\frac{1}{2}$	„ 21 B
Fowning	„	179	„ 21 B
„ via Huang-ts'un	„	$212\frac{3}{4}$	„ 21 C
„ via Taichow Ku	„	239	„ 21 C
Taichow Ku	„	$98\frac{1}{4}$	„ 22
Siennümiaio	„	122	„ 22
Liu-cha	„	$129\frac{1}{2}$	„ 22
Yangchow	„	139	„ 22

**TUNGTAIHSIEN**

Approximate { Latitude, 32° 50'.  
 Longitude, 120° 14'.

*Authority* : G. E. Pereira, 1908.

*The City.*—Tungtaihsien is a long, straggling, unwallled city, some two miles long from east to west, and one mile broad. The houses are of brick, with tiled roofs. The streets are narrow and paved with bricks.

The Ch'uan-ch'ang Ho, coming from the south, flows in a northerly direction along the west side, and is joined by one branch of the Yen Ho (No. 2) at the SW. corner, and by another, the main branch, near the NW. corner. There are a good many side-creeks or canals intersecting the city. The river is covered with boats which often form a block in the channel.

There is a normal school here, and a superior primary school. All the teachers are now Chinese.

The Fan-kung-ti embankment runs through the city, and the magistrate's *yamên* is built on it. The general level is about 6 ft. above that of the river.

*Surrounding Country.*—The country around is flat and only a few feet above river-level. It is intersected by creeks. There is a considerable amount of cultivation—rice, wheat, beans, &c., and villages are numerous.

*Foreign Residents.*—There are no resident foreigners, though an American Mission has a native station and occasionally missionaries from Shanghai pay it a visit.

*Communications.*—Steam-launches run to Tungtaihsien along the Yen Ho (No. 2) from Taichow Ku, 40 or 45 miles distant, and continue north to Yencheng Ku. Another launch goes along the Ch'uan-ch'ang Ho daily, via

Liangtow	6 miles from Tungtaihsien
Anfeng	8                   "                   "
Fuan Ku	16                   "                   "
Haian	26                   "                   "

There is a dam at the entrance to the Ch'uan-ch'ang Ho at Haian preventing launches from going on to Jukao. Launches from Tungtaihsien do not run to Haian in the winter, as there is not enough water.

The launch service from Taichow Ku to Hinghwa, from Taichow Ku via Tungtaihsien to Yencheng Ku, and from Tungtaihsien to Haian, are all owned by the Ta-ta Company.

There is a towpath along the Ch'uan-ch'ang Ho ; and the Fan-kung-ti which runs north and south-east from Tungtaihsien is a road raised 3 to 5 ft. above the level of the country on the east, but it is very variable in surface and is spoilt in places by numerous graves. In these places it degenerates into a footpath, used by passengers and wheelbarrows.

There is a post and telegraph office at Tungtaihsien.

*Distances from Tungtaihsien*

		miles	
To Tungchow	by water	84	Route 21 B
Haian	"	26	" 21 B
Yencheng Ku	"	52½	" 21 B
Fowning	"	95	" 21 B
Taichow Ku	"	41½	" 24 B

**WOOSUNG**

Approximate { Latitude, 31° 21'.  
                  { Longitude, 121° 30'.

*Authorities* : Military Report on the Defences of the Yang-tzü Chiang River, 1906 ; Imperial Japanese Railways, Official Guide, vol. iv, 1915.

**Woosung**, locally called Wu-sung-tsêng, is a large village at the mouth of the Huang-p'u river and on the west bank. It is now open to foreign trade, and has undergone considerable development. Embankments have been built, streets laid out, and drainage installed ; and among the chief buildings are an hotel, a branch of the Shanghai Customs, and an office of the Great Northern Telegraph Company. The Shanghai-Woosung

Railway has a station one mile S. of the village, and another at Woosung Forts, a mile to the north; and there are large railway workshops where important repairs are carried out for the Shanghai-Nanking and the Shanghai-Hangchow lines as well as for the local line. The railway owns a large water frontage and a jetty equipped with shear-legs and a crane for landing heavy materials. There are, besides, wooden jetties (to which launches drawing 5 ft. can approach at low tide) at the Customs-house, at the Woosung Hotel, and at the light-house. Small boats could land at Woosung village, where the river is faced with baulks and boarding. There is an anchorage for ocean-going steamers off Woosung.

*Surrounding Country.*—The surrounding country is flat and little above sea-level at high tide; it is much intersected by tidal creeks, from 10 to 30 ft. wide and from 1 to 4 ft. deep at low tide; and there are frequent stone-slab bridges, with slabs from 1 to 2 ft. wide and from 8 to 10 ft. long which would give trouble to animals unaccustomed to crossing them. Numerous small villages with mud or wooden huts and clumps of trees and bamboos obstruct the view. The crops are wheat and rice. The soil is heavy after rain; and the fields are ridge and furrow, the latter being full of standing water after heavy rain, at which time the country is practically impassable for wheeled vehicles other than wheelbarrows. Woosung Creek, 90 yards wide for some distance inland and unfordable, runs into the Huang-p'u south of the village. It is spanned by the following bridges:

- (1)  $\frac{1}{4}$  mile from the mouth: a wooden pile-bridge with roadway 20 ft. wide; passable for all arms.
- (2)  $\frac{1}{2}$  mile from the mouth; railway bridge with iron girders and wooden piles; passable for all arms.
- (3) Three miles from the mouth, on the pathway from Shanghai to Kiatinghsien: wooden, with 9 ft. roadway; unsafe for artillery.

There are, besides, two foot-bridges, respectively  $2\frac{1}{4}$  and  $3\frac{3}{4}$  miles from the mouth.

The Woosung Forts are about a mile north of the village,

on the river front, and another mile beyond them the Nan-shih-t'ang forts. The most prominent landmarks are the light-house and the look-out tower at Nan-shih-t'ang.

*Supplies.*—The water of the Yangtse and Huang-p'u rivers is fit for drinking, but should first be cleared and boiled. Fuel is obtainable in small quantities, wood of any other kind than bamboo being scarce. Considerable quantities of grain, especially rice, can be obtained in Woosung village. Supplies of forage are limited. Meat, other than pork, cannot be obtained; but poultry and fish are plentiful. As Shanghai is only 11 miles distant, there would be little difficulty in getting supplies thence.

*Transport.*—The only forms of transport, apart from the railway, are coolies, wheelbarrows, and boats—the last greatly predominating. Large numbers of native boats of all kinds, from small sampans drawing 8 or 9 in. to three-masted sea-going junks, are obtainable. The greater portion of the Shanghai trade is, however, carried there in ocean-going ships, or by the lighters of the Shanghai Tug and Lighter Company.

*Communications.*—The chief means of communication with Shanghai are the railway and the Huang-p'u river. The only metalled roads are the short roads constructed by the Woosung Land Improvement Syndicate, portions of the roads connecting the forts, and the road to the main magazine. The river-bund and the sea-wall is the only route possible for carts. Numerous pathways run in various directions, many of them paved in the centre for wheelbarrow traffic; but they are bad going after rain.

Post and telegraph office, and wireless stations (public and naval) here.

*Distances from Woosung Forts*

		miles	
To Shanghai	by rail	10	
"	by water	12	
"	along river-bund	15½	Route 8 B
"	by inland pathways	12	8 C
Liu-ho-k'ou	by land	17	7 E

**WUSIH.** (See Plan)

Approximate { Latitude, 31° 34'.  
 Longitude, 120° 26'.  
 Height, sea-level.

*Authority:* Military Report on the Province of Kiangsu (South), 1908;  
 Imperial Japanese Railways, Official Guide, vol. iv, 1915.

*The City.*—Wusih, or Wu-hsi-hsien, locally pronounced Vu-si-yüen, is a walled city of the usual type, situated on the Grand Canal and the chief centre of the silk industry. The walls, which are in indifferent repair, are about 20 ft. high and 3 miles in perimeter; and they are surrounded by a moat about 15 yds. wide and 8 ft. deep. There are four gates and three sluice-gates. Between the North and South Gates this moat is double. There are extensive suburbs on the north, south, and west. The busiest streets (lined by the houses of brokers in rice and silk) are inside the wall between the North Gate and the West Gate. Wusih is the wealthiest of the interior cities of Kiangsu, and has a population estimated at 200,000.

The surrounding country is a flat plain intersected by numerous waterways, with a small range of hills a few hundred feet high about 3 miles to the west of the city.

The railway station lies outside the East Gate of the city.

There is a branch of the American Protestant Episcopal Church Mission at Wusih.

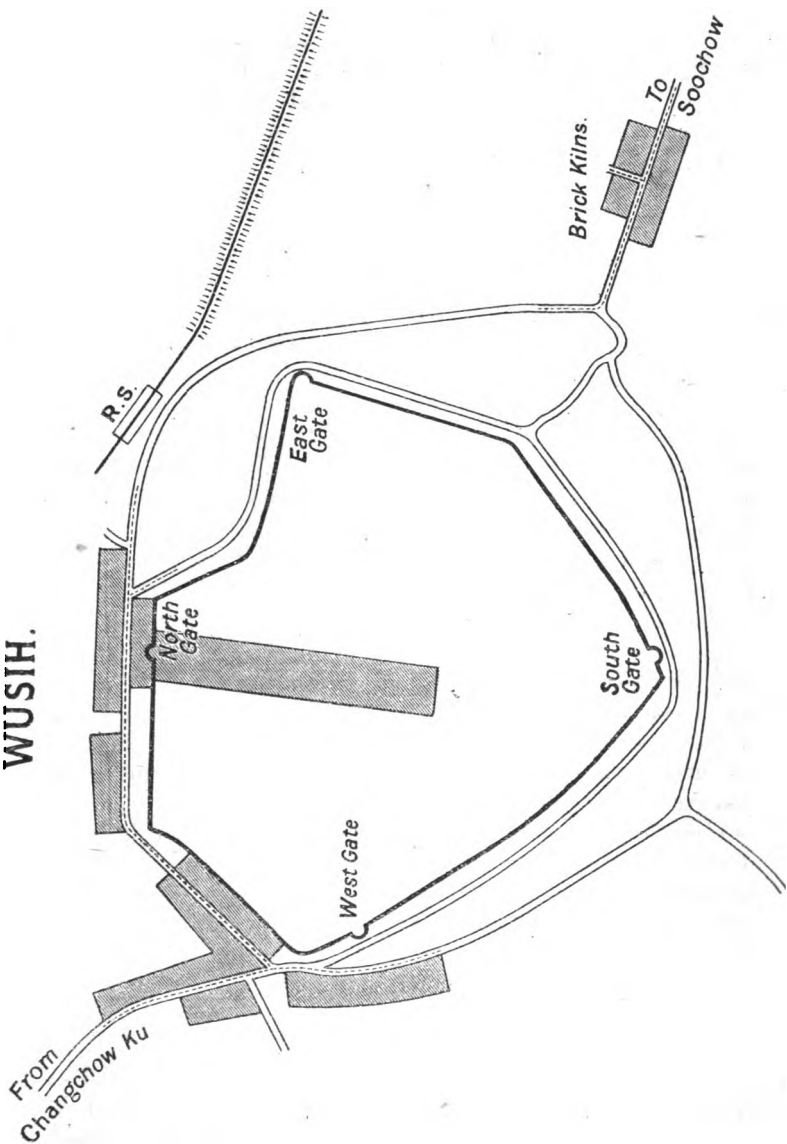
*Communications.* Wusih is served by the Shanghai-Nanking Railway and the Grand Canal. Smaller water routes connect it with Changshu Ku and Kiangyin on the east and north; and westward via Loshe with Ihing, Liyanghsien, Kaoshun, and Wuhu.

There are post and telegraph offices in the city.

*Distances from Wusih*

	miles	
To Soochow	by water 30½	Route 1 A
"	by rail 26.33	

# WUSIH.



**Sketch Plan.** Dotted lines in canals show where boats are likely to be found. Shading shows business quarters.



		miles		
To Changchow Ku	by water	25½	,,	1 A
"	by rail	24.14		
Kiangyin	by water	23	,,	14
Changshu Ku via Huang-ni-tai	,,	27	,,	12 A
via Tungting	,,	29	,,	12 B

### YANGCHOW

Approximate { Latitude, 32° 20'.  
 { Longitude, 119° 24'.

*Authority* : A. H. Hilton-Johnson, 1908 ; Imperial Japanese Railways, Official Guide, vol. iv, 1915.

*The City*.—Yangchow, recently officially named Chiang-tu-hsien, is a walled city on west bank of the Grand Canal, 11 miles north of the Yangtse. Its population is about 100,000. Its shape is roughly oblong ; its length about 2½ miles from east to west and its breadth a mile from north to south, with a perimeter of some 9 miles. The wall consists of the usual crenellated and loopholed brick facing, about 25 ft. high, backed on the inside by a rubble earth bank about 30 ft. thick, revetted perpendicularly with brick, and accessible only by means of ramps. The wall is in good repair throughout. There are nine gates in the outer wall as follows : four in the north side, three in the east, and one each in the south and west. Most of them are protected on the outside by semicircular parapets built out from the wall and similar to it in construction, and are surmounted by gate-houses. The entrances are over 15 ft. square, and are furnished with heavy, iron-bound, wooden doors. There are four water-gates each about 10 ft. square, one at the SE. corner, one at the south gate, and one each in the north and west walls.

The canal forms a moat 40 yds. wide along the whole of the east and part of the south wall. On the other sides there are smaller waterways. The principal suburbs are those along the banks of the canal to the north, east, and south of the city. Much ground in the interior of the city is not

utilized, but it is to a great extent covered with ruins—relics of the T'ai-p'ing rebellion. These houses are well built of brick, with tiled roofs, and would afford very good accommodation. Probably the cleanest and most healthy part of the city is that inside the South Gate, near the SW. corner. A conspicuous building is the Wan-fo-lou temple on the eastern side..

The city is the centre of the administration of the salt of the Liang Huai district. The chief salt merchants live here and have formed powerful guilds. It is also the centre of an excellent rice-growing district. It has a large general trade. The principal industries are lacquerware and silverwork, but it produces no special article of commercial importance. It is a famous old city, formerly capital of the Yang kingdom, and the residence of numerous scholars, with a long-standing reputation as a pleasure resort.

Electric lighting has been installed.

*Surrounding Country.*—The surrounding country to the west is said to be high and fairly dry at all times of the year. To the east it is low-lying and much intersected by creeks.

*Supplies.*—Very large supplies of food, fuel, and forage would always be available. Good water is to be obtained from the canal and from wells.

*Transport.*—The means of transport consists almost entirely of wheelbarrows, donkeys, and boats. About 1,000 barrows and 800 boats of various suitable sizes would always be available. The latter lie in the canal, along the whole length of the city walls on its banks. Donkeys are used only for carrying grain sacks and similar loads not requiring pack-saddlery.

*Government.*—Yangchow in 1908 was a city of the *fu* class under the Tao-t'ai of Hwaiianfu. The chief local officials were the Chih-fu or first-class district magistrate, and the two Chih-hsien or fourth-class district magistrates of Chiang-tu Hsien and Kan-ch'üan Hsien, which lie partly within the city, and were their headquarters. An official taking precedence of the above was the Assistant Salt Comptroller of the province, who also resided in the city.

There are about 500 police in the city and suburbs, and a small garrison in barracks on the east bank of the canal, near the NE. corner of walls.

*European Residents.*—The foreign missions represented are the China Inland, American Church, American Baptist, American Methodist and Episcopal, totalling about 50 men and women, besides the Roman Catholic Missions. The American Baptist Mission has a girls' school and a hospital.

*Communications.*—Communication is mainly north and south by the Grand Canal, and east by smaller creeks. With the exception of the path along the canal bank, north to Tsingkiangpu, with a break of  $1\frac{1}{2}$  miles at Liu-cha, and south to the Yangtse, roads are very few and local. There is regular steam-launch communication daily with Chinkiang, also with Tsingkiangpu, and less often with inland cities to the east.

There is a post and telegraph office in the city.

*Distances from Yangchow (East Gate)*

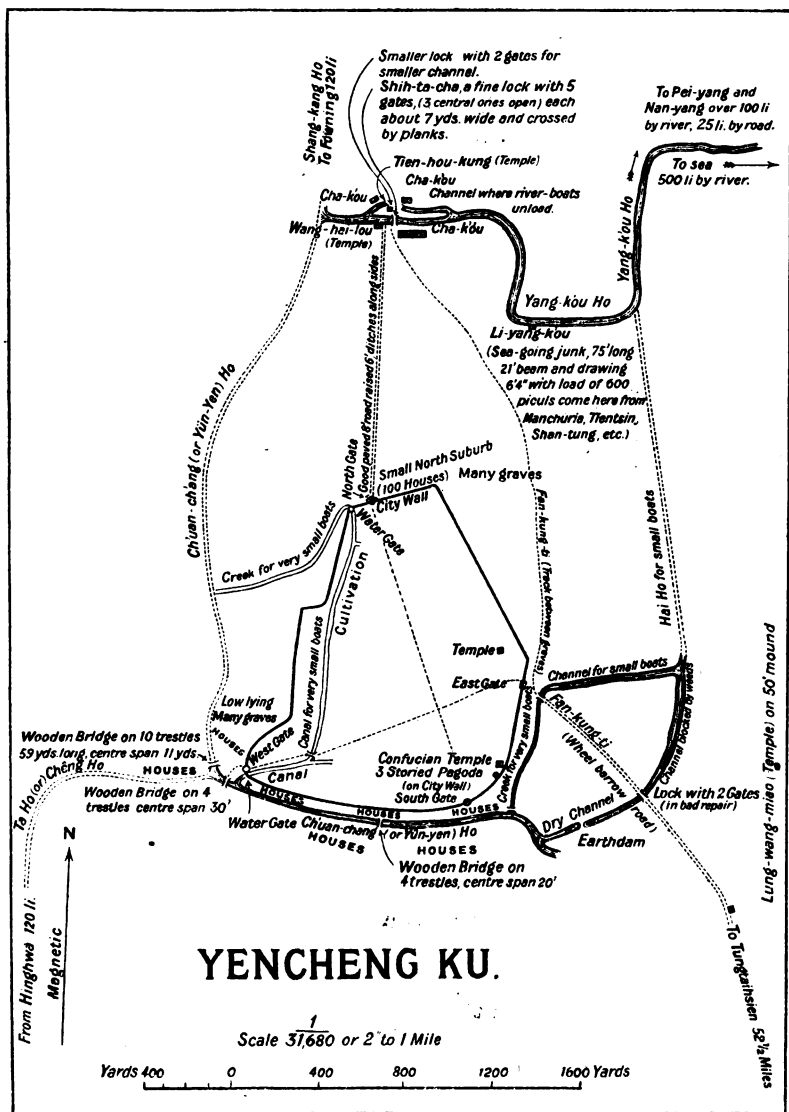
		miles	
To Chinkiang	by water	14 $\frac{1}{4}$	Route 19 (1)
Hwaiianfu	„	88 $\frac{1}{2}$	„ 19 (1)
Tsingkiangpu	„	97	„ 19 (1)
Taichow Ku	„	40 $\frac{3}{4}$	„ 22
Tungchow	„	139	„ 22
Pukow Ku	„	57 $\frac{1}{2}$	„ 36 A
„	by land	about 61	„ 36 B
„	by land and water	„ 61 $\frac{1}{2}$	„ 36 C

**YENCHENG KU.** (See Plan)

Approximate { Latitude, 33° 23'.  
                  { Longitude, 120° 6'.

*Authority :* G. E. Pereira, 1908.

*The City and Suburbs.*—Yencheng Ku is surrounded by the usual battlemented brick wall, about 30 ft. high, in good repair, with a path about 3 to 5 ft. wide along the top of the



bank. The city is roughly pear-shaped, with the narrow end at the North Gate.

The distances between the gates are as follows :

Between the South and West Gates, 1,192 yards

„	West	„	North	„	1,508	„
„	North	„	East	„	1,532	„
„	East	„	South	„	744	„

A small 5-storied pagoda on the wall is 227 yds. to the NE. of the South Gate.

The southern part of the city is thickly built over, and the houses extend along the river from the south to the West Gate. The northern part of the city has a belt of cultivation along the walls inside, and a small suburb of about 100 houses. There is no suburb on the east. The magistrate's figures for the city and suburbs in 1908 were 5,485 houses ; and the population was then probably about 25,000 to 30,000. Houses are partly of brick, with tiled roofs ; the remainder of mud with thatched roofs.

The Ch'uan-ch'ang Ho which narrows to between 30 and 35 yds. to the south of the city, is crossed by a bridge on four trestles with centre span of 20 ft. and height 15 ft., 100 yds. west of the South Gate.

The Ta Ho from Hingwa, here 50 yds. wide, flows into it opposite the West Gate. Just above the junction there is another wooden bridge on four trestles (centre span 30 ft. wide and 18 ft. high) over the Ch'uan-ch'ang Ho ; whilst a third, just below the junction, is on 10 trestles, and 59 yds. long, with centre span of 33 ft. and height from 20 to 24 ft.

The Fan-kung-ti embankment runs past the west of the Lung-wang Temple to the East Gate ; and passing about  $\frac{1}{2}$  mile to the NE. of the city, becomes a small track among graves, finally joining the road at the lock south of the T'ien-hou-kung.

There are extensive graveyards on the NE. and SW. of the city. The Ch'uan-ch'ang Ho (or, as it is called below the lock, the Yang-k'ou Ho) drains off all the rivers from this part of

the country. The Shang kang Ho, joined just above the lock by the P'i-ch'a Ho from the west, flows into the Ch'uan-ch'ang Ho just before it reaches the lock. The Shang kang Ho comes from near Shang kang, and is a continuation of the Ta-shih-wan Ho which, coming from Hwaiianfu, flows south about  $\frac{1}{2}$  mile SW. of Shang kang.

Yencheng Ku is bounded on the south and west by the Ch'uan-ch'ang Ho, or, as it is more commonly called in these parts, the Yün-yen Ho. Coming from Tungtaihsien,  $52\frac{1}{2}$  miles to the south, it flows north, receiving the waters of the low-lying country to the west, known as the Hsia-ho, and discharging them by various rivers and canals into the sea. At the SW. corner of the city it is joined by the Ta Ho or Ch'êng Ho, which flows from Hinghwa, 40 miles to the SW.

Near the SE. corner of the city is the entrance to the Hai Ho, which is dammed about 200 yds. lower down. 300 yds. beyond this dam is a lock with two gates, in a state of considerable disrepair. This channel, from the dam to the point opposite the East Gate, where a creek (used by small boats) unites with it in its course north to join the Yang-k'ou Ho is dry or choked with reeds. About a mile to the NW. of the city, the Yang-k'ou Ho—which is really a continuation of the Ch'uan-ch'ang Ho—flowing east, passes through a fine lock with five gates, the two outer ones of which are dammed with earth, at Cha-k'ou, a village of 200 houses on both banks, with a fine temple (the T'ien-hou-kung) in its northern half. A smaller channel passes to the north of the T'ien-hou-kung through a lock with two gates, and unites a short way beyond with the main channel. The current of this river is very strong. After a bend of about  $\frac{3}{4}$  mile to the SE. it passes Li-yang-k'ou, a village of 30 houses on the south bank, constituting the port of Yencheng Ku, and about  $\frac{3}{4}$  mile from the North Gate. Sea-junks from Tientsin, Manchuria, Chefoo, Shanghai, and other places, can reach this point. One junk was seen that had brought beancake from Manchuria, 88 ft. long by 25 ft. wide, drawing 6 ft. 4 in. of water when full, and capable of carrying 600 piculs

(36 tons). The crew numbered sixteen and stated that, with a favourable wind, they could reach Chefoo in ten days. Another 33 miles down the river (8 miles by land) are the villages of Pei-yang and Nan-yang facing each other. There are no houses at Hai-k'ou where it reaches the sea, 167 miles by water from Yencheng Ku. The Yang-k'ou Ho is here about 50 yds. wide.

A narrow creek for very small boats, connected with the river on the west, flows through a water-gate in the city wall, 92 yds. west of the North Gate. It is connected with another small channel from the same river entering similarly at the West Gate. Small canals from these water-gates intersect the city.

*Trade.*—Yencheng Ku has a large trade with Shanghai and the north.

*Transport.*—Wheelbarrows are plentiful; but there do not seem to be any horses, mules, or donkeys, and there are no carts.

*Government and Garrison.*—There are several river gun-boats, but no regular soldiers. The police force is over 200, and appears to be untrained, though they profess to do German drill.

*Foreign Residents.*—There is a branch of the American Church Mission here with four residents, men and women.

*Communications.*—Steam-launches, belonging to the Ta-ta Company, ply daily between here and Taichow Ku, via Tung-taihsien. It is stated that the river between these towns is never frozen, though in a very severe winter it may be so between here and Fowning for about ten days in January. It was last frozen in 1902. Steam-launches do not go to Hinghwa or Fowning. River boats ascending from Hai-k'ou lie in the smaller northern channel to the north of the T'ien-hou-kung to discharge their cargoes.

A fine raised road, paved with bricks, runs for  $\frac{3}{4}$  mile due north from the North Gate to the lock across the Yang-k'ou Ho and to the T'ien-hou-kung.

There is a post office at Yencheng Ku.

*Distances from Yencheng Ku*

		miles	
To Shang kang	by water	17	Route 21 B
Fowning	„	42½	„ 21 B
Tungtaihsien	„	52½	„ 21 B
Tungchow	„	136½	„ 21 B
Taichow Ku	„	about 76	„ 24 A
„	„	94	„ 24 B
„	„	106¼	„ 24 C
Liu-cha	„	105 to 135	Routes 24 A, B, C, and 25 A
Hwaiianfu	„	74½ and 105	„ 25 B and C
Hai-k'ou	„	about 61	„ 25 D





## APPENDIX I

### TRANSLITERATION OF PLACE-NAMES

SEVERAL different systems are in current use for the romanization of Chinese. Each foreign country is naturally inclined to transcribe the sounds of the characters in conformity with its own spelling. Thus, the French would have 'tch' where we write 'ch', and 'ch' for our 'sh'. The Morrison system, now almost obsolete, aimed at reproducing Chinese characters in a purely English form of spelling. Owing to our peculiar vowel-sounds, however, this system could hardly be adopted by other than Anglo-Saxon nations. The system of transliteration for Pekingese, known as the Wade orthography after the name of its inventor, may be regarded somewhat in the light of a compromise. In this, broadly speaking, it may be said that the vowels have their ordinary Continental values, while the semi-vowels ('w' and 'y') and the consonants are used more or less as in English. Hence we have *li*, not *le* or *lee*, and *wan* instead of *ouann*. All aspirates are indicated by an inverted comma: thus, *t'a*, pagoda, is distinguished from *ta*, great.

Convenient though the Wade orthography has proved for the transliteration of Northern Mandarin, as well as for general literary and scholastic purposes, there are strong reasons to be urged against its uniform adoption in a handbook on Kiangsu, where the principal dialects spoken are those of Shanghai and Southern Mandarin. In the list of place-names compiled by the Chinese Post Office, which is likely to become the standard spelling, the local pronunciation is generally followed. For the sake of simplicity, aspirates are omitted and no hyphens are used between the syllables. Names with the same sound are distinguished by adding either the province or the official status of the town. Thus, Taichow Ku (Kiangsu)

is distinguished from Taichow Sha (Shansi) and Taichowfu in Chekiang; Chüchow Sung (Shantung) from Chüchowfu in Chekiang; and Taiping An (Anhwei) from numerous other towns of the same name, including Taipinghsien, also in Anhwei. According to this system, the names of places at which different dialects are spoken may be found written in totally different ways although the characters are identical: e. g. 'Hengkiang' in Kiangsi is the same in Chinese as 'Wongkong' in Kwangtung.

In the Routes all place-names occurring in the Postal Guide (1916 edition) have been written in the form given there. This can readily be distinguished from other spellings by the fact that syllables are not separated by hyphens. With regard to other names, the Wade orthography has been adopted as far as possible; that is to say, wherever the Chinese characters are known, or the Wade form is obtainable from some trustworthy source. In these names the syllables are divided by hyphens. There is a residue of places, too small to be found on any Chinese map, the names of which are probably romanized from the local pronunciation and cannot be rendered with certainty in the Wade form. Such names have perforce been allowed to stand as they are. Not infrequently an alternative name or a local pronunciation has been added in brackets to the Post Office or Wade spelling.<sup>1</sup>

In using the subjoined list of words commonly occurring in Chinese place-names, it should be borne in mind that, although you can always get the sound of a word when the character is given, you cannot proceed vice versa and deduce the character or the meaning from the sound alone. The reason is that in Chinese the same sound often has to do duty for a large number of different words. There are many cases, however, in which a guess can be made that approximates to certainty.

<sup>1</sup> The Wade spelling of all the Post Office names has been given in the Index, except where no essential difference exists.

## APPENDIX II

### GLOSSARY OF COMMON TERMS USED IN GEOGRAPHICAL NOMENCLATURE

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
安	An	ngan, ê	peace
閘	cha	za, zo	lock, weir
寨	chai	za, sei	stockade
站	chan	zän, tsän	stage, station
長	ch'ang	zang, sang	long
常	ch'ang	zang	constant
鎮	chên	tsên, tsêng	market town
城	ch'êng	zêng	walled city
集	chi	tsi, tsih	small town
溪	ch'i	ki	mountain stream
七	ch'i	ts'i	seven
家	chia	ka	family, home
嘉	chia	kia, ka	excellent
江	chiang	kiang, kang	river
港	chiang	kang	harbour, anchorage
橋	ch'iao	kiao, jau	bridge
界	chieh	kai, ka	boundary



cr.	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
	hang	aung	row, order
黑	hei	huh	black
河	ho	hu, wu	river, creek, canal
口	ho	eh	junction
後	hou	'eu, wo	back, after
西	hsi	si	west
下	hsia	'au	lower, below
巷	hsiang	hang	side street
小	hsiao	siao	small
縣	hsien	yüen, yoen	district or city of the fourth class
新	hsin	sing	new
興	hsing	hyung	rise, prosperous
湖	hu	wu	lake
黃	huang	wang	yellow
一	i, yi	ih	one
岡	kang	kaung	ridge
高	kao	kau	high
溝	kou	keu, kei	nullah, ditch, watercourse
口	k'ou	k'eu, k'ei	mouth, port, mountain pass
古	ku	koo	ancient

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
街	chieh	kai, ka	street
前	ch'ien	sien, sie, zie, tsie	front, before
金	chin	kin, ching	metal, gold
青	ch'ing	tsing	green
清	ch'ing	tsing	pure
九	chiu	kiu	nine
邱	ch'iu	kiu	mound, tumulus
州	chou	tseu, tsé	a 'department' (district or city of the third class)
洲	chou	tseu	islet
周	chou	tsou	all round, complete
川	ch'uan	ch'ü	stream
莊	chuang	tsuang, tsang, zang	farm, small village
中	chung	tsung	middle
二	êrh	ni, nyi	two
方	fang	faung	square
房	fang	vaung	house
豐	fêng	fong	abundant
府	fu	foo	prefecture (district or city of the first class)
福	fu	fo, fok	happiness
海	hai	heh, he, hae	sea

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
行	hang	aung	row, order
黑	hei	huh	black
河	ho	hu, wu	river, creek, canal
合	ho	eh	junction
後	hou	'eu, wo	back, after
西	hsi	si	west
下	hsia	'au	lower, below
巷	hsiang	hang	side street
小	hsiao	siao	small
縣	hsien	yüen, yoen	district or city of the fourth class
新	hsin	sing	new
興	hsing	hyung	rise, prosperous
湖	hu	wu	lake
黃	huang	wang	yellow
一	i, yi	ih	one
岡	kang	kaung	ridge
高	kao	kau	high
溝	kou	keu, kei	nullah, ditch, watercourse
口	k'ou	k'eu, k'ei	mouth, port, mountain pass
古	ku	koo	ancient



<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
官	kuan	kwen	official
關	kuan	kuei	pass, customs barrier
廣	kuang	kwaung	broad
貴	kuei	kwe	honourable
藍	lan		blue
老	lao		old
里	li		measure of distance (generally about $\frac{1}{3}$ mile)
梁	liang		beam, plank, bridge.
林	lin	ling	grove, forest
臨	lin		approach
陵	ling		mound
嶺	ling		mountain range, col
六	liu	lo, lok	six
柳	liu	lieu, lo	willow
劉	liu		slay, a surname
流	liu	lieu	flow
羅	lo	lu	net, sieve
樓	lou	leu	storey, tower
路	lu		road
龍	lung	long, lo	dragon

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
馬	ma	mo	horse
門	mên	mêng	gate
廟	miao		temple
明	ming	,	bright
木	mu	mo	wood, tree
南	nan	nên, nê, no	south
內	nei		inside
甯	ning		repose, tranquil
牛	niu		ox, cow
壩	pa	po	embankment, dam, haul-
八	pa		over eight
白	pai	pa, po	white
堡	pao	pu	rampart, outpost
北	pei	po, pu, pok	north
浜	pêng	pang	creek, canal
平	p'ing	bing	level, peace
埠	pu, fou		port
浦	p'u		reach, tributary, creek
鋪	p'u		shop
三	san		three

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
沙	sha	so, sho	sand
山	shan	sän, sei	hill, mountain
上	shang	zang, sang	upper, above
石	shih	sa, za	stone
十	shih	zeh	ten
市	shih	ssŭ, tzŭ	market
雙	shuang	sang, suang	couple
水	shui	ssŭ	water
所	so		place, fortified camp
司	ssŭ	sze	township
四	ssŭ		four
寺	ssŭ		monastery, temple
松	sung		pine tree
大	ta	t'ai, tu	great
塔	t'a		pagoda
太	t'ai		great, very
臺	t'ai	ta, tei	terrace, fort
丹	tan		cinnabar, red
潭	t'an	den	pool
黨	tang		village

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
塘	t'ang		pond, lake, dyke
道	tao		way, road
德	tê	teh, tei, tuh	virtue
堤	ti		dyke, embankment
店	tien	ti, tie	inn
天	t'ien	t'ie	heaven
廳	t'ing		sub-prefecture (district or city of the second class)
頭	t'ou	tou, tei	head
澤	tsê		swamp, marsh
村	ts'un	ts'ên, ts'êng	village
渡	tu		ferry
東	tung	tong	east
洞	tung	dong	hollow, cavern, spillway
子	tzü	tsze, ts	a suffix added to some words without changing their meaning.
窪	wa		hollow, valley, swampy ground
外	wai	nga	outside
灣	wan	wän	bay, curve
王	wang		king, prince
衛	wei	we	garrison, fortified place

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
武	wu	voo	martial
吳	wu	ng, ung	name of ancient kingdom in Kiangsu
五	wu	ng, ung	five
洋	yang		ocean, foreign
楊	yang		raise, Yangtse
楊	yang		willow
陽	yang		male principle, sun, south
陰	yin		female principle, dark
營	ying	yung	camp
園	yüan	yoen, yüe	garden, enclosure
永	yung		long, eternal

Table 2. List of Principal Steamers plying to Shanghai and the Coast Ports of China in 1916 (continued)

Name of Ship.	When Built.	Material.	Dimensions.			Registered Tonnage.		Horse-power and Description of Propeller.
			Length. Ft.	Breadth. Ft.	Depth of Hold. Ft.	Net.	Gross.	
Tung Shing	1903	steel	275.4	40.0	20.0	1,173	1,869	200 screw
Wai Shing	1903	"	275.3	40.0	20.1	1,170	1,865	200 "
Wing Sang	1883	iron	290.5	40.2	24.0	1,517	2,339	188 "
Wo Sang.	1891	steel	260.0	36.1	22.0	1,127	1,783	175 "
Yat Shing	1904	"	290.4	42.1	22.6	1,424	2,284	200 "
Yik Sang.	1902	"	282.0	40.0	20.4	1,236	1,967	176 "
Yuen Sang	1889	"	250.2	36.2	23.6	1,128	1,753	200 "
Chinese Engineering & Mining Co., Ltd.								
Kailan	1914	—	—	—	—	—	229	— screw
Kaiping	1905	steel	312.0	44.3	20.8	1,605	2,563	480 "
Kwang Ping	1898	"	265.0	40.2	20.9	1,243	1,999	200 "
Geo. McBain, Shanghai								
Tong Hong	1891	—	—	—	—	—	2,184	—
CHINESE								
China Merchants' Steam Navigation Co.								
An-ping	1896	steel	265.0	40.1	21.4	1,159	1,857	181 screw
Chi-yuen.	1881	iron	284.9	34.2	18.3	1,177	1,873	180 "
Feiching.	1883	"	253.0	36.0	13.3	980	1,539	188 "

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
武	wu	voo	martial
吳	wu	ng, ung	name of ancient kingdom in Kiangsu
五	wu	ng, ung	five
洋	yang		ocean, foreign
揚	yang		raise, Yangtse
楊	yang		willow
陽	yang		male principle, sun, south
陰	yin		female principle, dark
營	ying	yung	camp
園	yüan	yoen, yüe	garden, enclosure
永	yung		long, eternal

*Table 2. List of Principal Steamers plying to Shanghai and the Coast Ports of China in 1916 (continued)*

W. S. 1	W. S. 2	Phonograms	Revised Language	How many of
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16
17	17	17	17	17
18	18	18	18	18
19	19	19	19	19
20	20	20	20	20
21	21	21	21	21
22	22	22	22	22
23	23	23	23	23
24	24	24	24	24
25	25	25	25	25
26	26	26	26	26
27	27	27	27	27
28	28	28	28	28
29	29	29	29	29
30	30	30	30	30
31	31	31	31	31
32	32	32	32	32
33	33	33	33	33
34	34	34	34	34
35	35	35	35	35
36	36	36	36	36
37	37			



Table 2. List of Principal Steamers plying to Shanghai and the Coast  
Ports of China in 1916 (continued)

Name of Ship.	When Built.	Material.	Dimensions.			Registered Tonnage.		Horse-power and Description of Propeller.
			Length. Ft.	Breadth. Ft.	Depth of Hold. Ft.	Net.	Gross.	
Hae-an .	1873	iron	244-0	33-0	18-2	837	1,344	169 screw
Hsin Chang	1905	steel	270-3	40-1	20-3	1,258	2,000	162 "
Hsin Chi	1892	"	260-0	37-0	21-3	1,385	1,846	150 "
Hsin-fung	1891	"	260-0	37-0	21-3	1,385	1,846	150 "
Hsin Kong	1906	"	270-0	40-1	20-3	1,262	2,146	162 "
Hsin Ming	1907	—	—	—	—	—	2,133	—
Hsin-yu .	1889	"	250-0	36-1	19-8	1,038	1,629	125 "
Irene .	1890	"	219-0	40-0	12-5	826	1,343	142 "
Kiang Hsin	1905	"	325-0	44-0	14-6	2,101	3,372	311 twin screw
Kiang Wah	1912	—	—	—	—	—	3,692	—
Kung Ping	1894	steel	320-0	46-0	21-1	1,742	2,705	222 "
Kwang Chi	1887	"	185-0	27-0	11-0	313	505	57 "
Kwang Lee	1883	"	280-0	40-0	25-4	1,468	2,359	249 screw
Kwang Tah	1883	"	280-0	40-0	17-9	1,536	2,474	299 "
Poochi .	1882	"	209-7	35-4	14-8	631	1,049	101 twin screw
Taishun .	1896	"	265-0	40-1	21-2	1,216	1,962	156 screw
Too Nan	1881	"	253-2	36-1	27-3	942	1,537	172 "
Tung Wah	1906	iron	—	—	—	—	1,176	—
Yu Shun	1900	steel	260-2	40-2	18-3	1,079	1,696	169 "

Table 2. List of Principal Steamers plying to Shanghai and the Coast Ports of China in 1916 (continued)

Name of Ship.	When Built.	Material.	Dimensions.			Registered Tonnage.		Horse-power and Description of Propeller.
			Length.	Breadth.	Depth of Hold.	Net.	Gross.	
GERMAN								
Hamburg-America Line (Melchers & Co.)								
Admiral von Tirpitz	1905	steel	261-1	40-0	19-5	1,199	2,007	148 twin screw
Gouverneur Jaeschke	1900	"	240-4	36-0	20-9	1,045	1,738	204 screw
Peiho	1899	"	188-4	28-4	9-8	417	756	87 "
Sikiang	1907	"	260-8	40-3	16-2	1,015	1,840	177 "
Staatssekretar Kraetke	1905	"	261-2	40-2	19-6	1,209	2,009	148 twin screw
Tsintau	1891	"	239-3	38-0	13-4	977	1,588	159 "
JAPANESE								
Nippon Yusen Kaisha								
Hakuai Maru	1898	steel	312-0	39-2	18-7	1,436	2,636	374 screw
Kasuga Maru	1898	"	375-0	44-1	25-0	2,368	3,820	580 "
Kosai Maru	1899	"	312-0	39-2	18-7	1,423	2,635	377 "
Osaka Shosen Kaisha								
Bujun Maru	1908	steel	262-0	35-1	19-9	1,300	1,810	138 screw
Choshu Maru	1896	"	255-4	36-7	19-9	1,203	1,670	137 "
Choshun Maru	1907	"	262-0	35-2	19-9	1,304	1,811	138 "
Shinchiku Maru	1890	"	320-0	41-8	18-1	1,938	3,127	234 "
Soshu Maru	1897	"	259-0	34-9	21-2	1,119	1,805	183 "

## APPENDIX IV

### LIST OF POST AND TELEGRAPH OFFICES IN THE PROVINCE OF KIANGSU

(Corrected up to September, 1916.)

NOTE.—H. O. indicates Head Office ; I, First Class Office ; II, Second Class Office ;  
III, Third Class Office ; A., Agency ; T., Telegraph.

Anchen, A.	安鎮	Changtsun Ku, A.	張村
Anfeng, A.	安豐	Changtzeshan, A.	張芝山
Anting, III, T.	安亭	Changwangchen, A.	張網鎮
Antung Ku, A, T.	安東縣	Changyen, III.	張堰
Chaho, A.	岔河	Chaohaikia, A.	草鞋夾
Chakiakiao, A.	查家橋	Chefang, A.	車坊
Changankiao, A.	長安橋	Chekiao, A.	車橋
Changchow Ku, II, T.	常州府	Chelin, A.	柘林
Changchuchen, A.	張渚鎮	Chenchang, A.	鎮場
Changhwangkiang, A.	張黃港	Chenchusze, A.	正覺寺
Changking, A.	長涇	Chengkiakiao, A.	程駕橋
Changkingkiao, A.	張涇橋	Chenglukiao, A.	鄭六橋
Changlientang, A.	章練塘	Chengtunghwei, A.	正東圩
Changshe, A.	張舍	Chengyangkiang, A.	懲洋港
Changshow Ku, A.	長壽	Chenhükiao A.	陳墟橋
Changshu Ku, II., T.	常熟縣	Cheni, A.	陳真義
		Chenju,	真茹

Chenkiatsih, A.	陳家集	Chumen, A.	朱門
Chenmu, A.	陳墓	Chunghing, II, T.	衆興
Chenshu, A.	陳墅	Chungku, A.	重固
Chentseh, III, T.	震澤縣	Chutang, A.	祝塘
Chenwumiao, A.	真武廟	Chwangkiahang, A.	莊家行
Chetang, A.	柘塘	Chwankiangchen, A.	川港鎮
Chihshantu, A.	攝山渡	Chwansha, II, T.	川沙廳
Chihtang, II.	支塘	Erhkia, A.	二甲
Chilingmen, A.	麒麟門	Erhling, A.	二珥陵
Chinhong, A.	秦巷	Fahwa, A.	法華
Chinkiang, I, T.	鎮江府	Fanchwan, II, T.	樊川
Chinnantsang, A.	秦南倉	Fangkiaochen, A.	方橋鎮
Chishuyen, A.	戚墅堰	Fangtaichen, A.	方泰鎮
Chowchwang, A.	周莊	Fanshui, II.	汜水
Chowkiao, A.	周橋	Fenghsien Ku, A.	豐縣
Chowpu, III.	周浦	Fengkiao Ku, A.	楓橋
Chowshu, A.	周墅	Fengking, II.	楓涇
Chowsinchen, A.	周新鎮	Fengkutsun, A.	鳳谷村
Chowtiehkiao, A.	周鐵橋	Fengli, A.	豐利
Chuchentsi, A.	竹鎮集	Fengsien, A.	豐奉賢縣
Chüehkiang, II.	掘港	Fowkiao, A.	浮橋
Chuhangchen, A.	竹行鎮	Fowning, II.	阜甯縣
Chukiakio, II.	朱家角	Fowtzetsi, A.	阜子集
Chuking, II.	洙涇	Fuan Ku, A.	富安
Chulan, A.	褚蘭		

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
沙	sha	so, sho	sand
山	shan	sän, sei	hill, mountain
上	shang	zang, sang	upper, above
石	shih	sa, za	stone
十	shih	zeh	ten
市	shih	ssü, tzü	market
雙	shuang	sang, suang	couple
水	shui	ssü	water
所	so		place, fortified camp
司	ssü	sze	township
四	ssü		four
寺	ssü		monastery, temple
松	sung		pine tree
大	ta	t'ai, tu	great
塔	t'a		pagoda
太	t'ai		great, very
臺	t'ai	ta, tei	terrace, fort
丹	tan		cinnabar, red
潭	t'an	den	pool
黨	tang		village

<i>Character.</i>	<i>Pekingese (Wade).</i>	<i>Other Kiangsu dialects.</i>	<i>Meaning.</i>
塘	t'ang		pond,* lake, dyke
道	tao		way, road
德	tê	teh, tei, tuh	virtue
堤	ti		dyke, embankment
店	tien	ti, tie	inn
天	t'ien	t'ie	heaven
廳	t'ing		sub-prefecture (district or city of the second class)
頭	t'ou	tou, tei	head
澤	tsê		swamp, marsh
村	ts'un	ts'ên, ts'êng	village
渡	tu		ferry
東	tung	tong	east
洞	tung	dong	hollow, cavern, spillway
子	tzü	tsze, ts	a suffix added to some words without changing their meaning.
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王	wang		king, prince
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楊	yang		willow
陽	yang		male principle, sun, south
陰	yin		female principle, dark
營	ying	yung	camp
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Table 2. List of Principal Steamers plying to Shanghai and the Coast Ports of China in 1916 (continued)

Name of Ship.	When Built.	Material.	Dimensions.			Registered Tonnage.		Horse-power and Description of Propeller.
			Length. Ft.	Breadth. Ft.	Depth of Hold. Ft.	Net.	Gross.	
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Hsin Ming . . . . .	1907	—	—	—	—	—	2,133	—
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Antung Ku, A, T.	安東縣	Changyen, III.	張堰
Chaho, A.	岔河	Chaohaikia, A.	草鞋夾
Chakiakiao, A.	查家橋	Chefang, A.	車坊
Changankiao, A.	長安橋	Chekiao, A.	車橋
Changchow Ku, II, T.	常州府	Chelin, A.	柘林
Changchuchen, A.	張渚鎮	Chenchang, A.	鎮場
Changhwangkiang, A.	張黃港	Chenchusze, A.	正覺寺
Changking, A.	長涇	Chengkiakiao, A.	程駕橋
Changkingkiao, A.	張涇橋	Chenglukiao, A.	鄭六橋
Changlientang, A.	章練塘	Chengtunghwei, A.	正東圩
Changshe, A.	張舍	Chengyangkiang, A.	懲洋港
Chiangshow Ku, A.	長壽	Chenhükiao A.	陳墟橋
Changshu Ku, II, T.	常熟縣	Cheni, A.	真義
		Chenju,	真茹

Chenkiatsih, A.	陳家集	Chumen, A.	朱門
Chenmu, A.	陳墓	Chunghing, II, T.	衆興
Chenshu, A.	陳墅	Chungku, A.	重固
Chentseh, III, T.	震澤縣	Chutang, A.	祝塘
Chenwumiao, A.	真武廟	Chwangkiahang, A.	莊家行
Chetang, A.	柘塘	Chwankiangchen, A.	川港鎮
Chihshantu, A.	攝山渡	Chwansha, II, T.	川沙廳
Chihtang, II.	支塘	Erhkia, A.	二甲
Chilingmen, A.	麒麟門	Erhling, A.	二珥陵
Chinhong, A.	秦巷	Fahwa, A.	法華
Chinkiang, I, T.	鎮江府	Fanchwan, II, T.	樊川
Chinnantsang, A.	秦南倉	Fangkiaochen, A.	方橋鎮
Chishuyen, A.	戚墅堰	Fangtaichen, A.	方泰鎮
Chowchwang, A.	周莊	Fanshui, II.	汜水
Chowkiao, A.	周橋	Fenghsien Ku, A.	豐縣
Chowpu, III.	周浦	Fengkiao Ku, A.	楓橋
Chowshu, A.	周墅	Fengking, II.	楓涇
Chowsinchen, A.	周新鎮	Fengkutsun, A.	鳳谷村
Chowtiehkiao, A.	周鐵橋	Fengli, A.	豐利
Chuchentsi, A.	竹鎮集	Fengsien, A.	豐奉賢縣
Chüehkiang, II.	掘港	Fowkiao, A.	浮橋
Chuhangchen, A.	竹行鎮	Fowning, II.	阜甯縣
Chukiakio, II.	朱家角	Fowtzetsi, A.	阜子集
Chuking, II.	洙涇	Fuan Ku, A.	富安
Chulan, A.	褚蘭		

Fushan, A. T.	福山	Hungshengli, A.	鴻聲裡
Haian, II, T.	海安	Hupukow, A. T.	滄浦口
Haichow, II, T.	海安州	Hushu, II.	湖熟關
Haifuchen, A.	海復鎮	Hushukwan, III.	滄墅關
Haimenting, II, T.	海復門廳	Hutai, A.	湖埭
Hangkiao, A.	項橋	Hutow Ku, III.	湖塋安府
Hangkiatsi, A.	項杭家集	Hwaiianfu, II, T.	淮安溪
Hantsun, A.	韓村	Hwaki, A.	花黃橋
Hengkikiao, A.	橫溪橋	Hwangkiao, II.	黃璜涇
Hengking, A.	橫涇	Hwangking, A.	黃璜埭
Hengshan Ku, A.	橫扇	Hwangtai, A.	黃璜塘
Hengtang, A.	橫塘	Hwangtang, A.	黃璜渡
Hinghwa, II, T.	興化縣	Hwangtu, A.	黃土塘
Hocheng, A.	河城橋	Hwangtutatang, A.	黃華墅莊
Hokiao, A.	和橋	Hwashu, A.	華大房
Hokiashih, A.	何家市	Hwatafang-chwang, A.	華大房莊
Holiehkow, A.	河埭口	Ihing, II, T.	宜興縣
Hōwteng, A.	后塍	Iling, A.	宜陵
Howtseh, A.	后宅	Jukao, II, T.	如皋縣
Howyangfang-tsien, A.	后楊坊前	Junghong, A.	如榮巷
Howyucha, A.	候油榨	Kaishow, II.	界首
Hungkiao Ku, A.	虹橋	Kangkow, A.	界港口
Hungkiao Ku N, A.	虹橋	Kangmen, A.	岡門
Hunglanfow, A.	洪藍埠		

Kanlu, A.	甘露
Kanyü, A.	贛榆
Kaokiao Ku, III.	高橋
Kaokiaomen, A.	高橋門
Kaoliuchen, A.	高橋鎮
Kaoshun, II.	高淳縣
Kaotso, A.	高作
Kaotsochen, A.	高作鎮
Kaotze, A. T.	高資
Kaowang, A.	高旺
Kaoyuchow, II, T.	高郵州
Kianchen, A.	騎岸鎮
Kiangchaokiang, A.	姜灶港
Kiangnan, II, T.*	姜昌廟
Kiangningchen, A.	江甯鎮
Kiangpu, A.	江浦
Kiangwan, II, T.	江灣
Kiangyen, II, T.	姜堰
Kiangyin, II, T.	江陰縣
Kiaochen, A.	橋鎮
Kiaolin, A.	橋林
Kiaoshu, A.	橋墅
Kiaotow Ku, A.	橋頭
Kiaotowchen Ku, A.	橋頭鎮
Kiatinghsien, II.	嘉定縣

Kienpi, III.	諫壁
Kienyang Ku, A.	建陽
Kikiashih, A.	季家市
Kilinchén, III.	麒麟鎮
Kingantsi, A.	敬安集
Kinsha, II.	金沙縣
Kintan Ku, II.	金壇縣
Kintseh, A.	金澤
Kintungkiao, A.	金童橋
Kinyüchen, A.	金餘鎮
Kiohsieh, A.	角斜鎮
Kiulungchen, II.	久隆鎮
Kotsun, A.	葛村
Kowan, II.	葛村
Kowtengchen, A.	溝墩鎮
Kucheng Ku, A.	固城
Kulitsun, A.	古里村
Kungchen Ku, A.	孔鎮
Kunshan, II, T.	崑山縣
Kupichow, A.	古邳州
Kushan Ku, A.	顧山
Kütang, A.	曲塘
Küyung, II.	句容縣
Kwachow, A.	瓜州
Kwangfu, A.	光福

\* So in latest edition of Postal Guide.

Kwanglingchen, A.	廣陵鎮	Loshe, A.	洛社
Kwanhu, A.	官湖	Lotien, II.	羅店
Kwanyinmen, A.	觀音門	Lowtang, A.	婁塘
Kwapu, A.	瓜埠	Loyang Ku, A.	洛陽
Kweikiachwang, A.	歸家莊	Lücheng, A.	呂城
Kwochwangmiao, A.	郭莊廟	Luchih, III.	角直
		Luchukiao, A.	陸區橋
Liangtow, A.	梁望	Luhö, II.	六合縣
Lifakiao, A.	力乏橋	Luhochen, A.	鹿河鎮
Likow Ku, A.	蠡口	Luhü Ku, A.	蘆墟
Likwoyi, A.	利國驛	Lukia, A.	六甲
Lili, A.	黎里	Lukiakiao, A.	陸家橋
Linchengtsih, A.	凌城集	Lukiapeng, A.	萊葭溪
Lintienchen, III.	靈甸鎮	Lukow Ku, A.	祿口
Lintseh, A.	臨澤	Lulangkiao, A.	六郎橋
Lipao, A.	李堡	Lumu, A.	陸墓
Lishe, A.	禮社	Lunghwa, II.	龍華
Lishih, A.	蠡市	Lungtan Ku, A. T.	龍潭
Lishui, II.	漂水縣	Lungtu, A.	龍都
Litienchen, A.	李典鎮	Lüsze, A.	呂四
Liuchwang Ku, A.	劉莊	Luwan, A.	鹿苑
Liuhö Ku, II, T.	瀏河		
Liuhong, A.	陸巷	Makiatsih, A.	馬家集
Liukiao, A.	劉橋	Maochuchen, A.	毛竹鎮
Liyanghsien, II, T.	漂陽縣	Maokiashih, A.	毛家市

Matang Ku, A.	馬塘	
Matowchen Ku, A.	碼頭鎮	
Meili, A.	梅里	
Meitsun Ku, A.	梅村	
Meiyen, A.	梅堰	
Mengho, A.	孟河	
Miaochen, III.	孟廟鎮	
Minhang, II.	閔行	
Mocheng, A.	莫城	
Molingkwan, A.	秣陵關	
Mulungting, A.	秣龍亭	
Mutu, II.	木瀆	
Nancha, A.	南閘	
Nanfangtsien, A.	南坊	前
Nanhengking, A.	南橫	涇
Nanhwei, II.	南匯	鎮
Nankiao Ku, II.	南橋	
Nankiaochen, A.	南橋	鎮
Nanking, H. O., T.	南京	
Nanshwangmiao, A.	南雙廟	
Nansiang, II, T.	南翔	
Nantang, A.	南塘	
Nantsingho, III.	南清	河
Owtangkiao, A.	藕塘	橋

Pacheng, A.	巴城	
Paihokang, A.	白鶴港	
Paikü, A.	白駒	
Paimao, A.	白茆	
Paipu, A.	白蒲	
Pancha, III.	板閘	
Pankiao Ku, A.	板橋	
Panpu, II, T.	板浦	
Paochang, A.	包場	
Paochen, II.	堡鎮	
Paoshan, II.	寶山	縣
Paoyen, A.	寶堰	
Paoying, II, T.	寶應	縣
Papaikiao, A.	八百	橋
Patan, A.	八灘	
Patowshan, A.	八斗	山
Patzekiao, A.	八字	橋
Patzekiao N, A.	八字	北
Payitsi, A.	八義	集
Pehchih, A.	北坎	
Pehchowchwang, A.	北周	莊
Pehkiao, A.	北橋	
Pehkwo, A.	北澗	
Pehnganfeng, A.	北安	豐
Pehsinchen, II.	北新	鎮



Pehsinking, A.	北新涇	Shaochi, A.	峭岐
Peih sien, A.	沛縣	Shaopo, II.	邵伯
Pengchen, A.	浜鎮	Shatow Ku, II.	沙頭
Penglangchen, A.	蓬閘鎮	Shengtzechen, A.	生祠鎮
Penniu, A., T.	奔牛	Shenkang, A.	申港
Picheng, A.	埤城	Sheyang, A.	射陽
Pingcha, A.	拼茶	Shihchwang Ku, A.	石莊
Pingkiao, A.	平橋	Shiherhwei, II, T.	十二圩
Pingwang, A.	平望	Shiherhweikang, A.	十二圩港
Pochu, A.	博渚	Shihfowkiao, A.	石埠橋
Puchwang, A.	浦莊	Shihkiakiao, A.	施家橋
Pukow Ku, II, T.	浦口	Shibkiang, A.	石港
		Shihpai, A.	石牌
Sankiangying, A.	三江營	Shihtang Ku, A.	石塘
Sanmaochen, A.	三茅鎮	Shihtangwan, A.	石塘灣
Sanshihlipu, A.	三十里埠	Shihyen, A.	時堰
Santowchen, A.	三三鎮	Shingtseh, II.	盛澤
Sanyangchen, II.	三陽鎮	Shunhwa, A.	淳化
Shakow Ku, III.	沙溝	Shuyang, II, T.	沈陽縣
Shangfang, A.	上坊	Shwangfeng, A.	雙鳳
Shanghai, H. O., T.	上海縣	Shwangkow Ku, A.	雙溝
Shangkang, III.	上岡	Shwangtien, A.	雙甸
Shangsinho, II.	上新河	Siakang Ku, A.	夏港
Shangyüanmen, A.	上元門	Siamohwei, A.	蝦蟆圩
Shanjenkiao, A.	善人橋	Siangcheng Ku, A.	湘城

Siangshuikow, A.	响水口	Sinkaiho, A.	新開河
Siaochaichen, A.	小寨鎮	Sinkangchen, A.	新港鎮
Siaohsien, A.	蕭縣	Sinpichow, A.	新邳州
Siaoki Ku, A.	小紀	Sinpuchen, III.	新浦
Siaolinwei, A.	孝陵衛	Sinta, A.	莘塔
Siapa, A.	下壩	Sinti Ku, A.	新地
Siashukai, A.	下蜀街	Sintukiao, A.	新瀆橋
Siawangshu, A.	下王墅	Sipa, A.	西壩
Sichang, A.	西漳	Sishan, A.	西山
Siehflowchen, A.	薛埠鎮	Sishankiao, A.	西善橋
Siehki, A.	解溪	Sishihkiao, A.	西石橋
Siehkiakiao, A.	謝家橋	Sisinsih, A.	西新市
Siehkiao Ku, A.	斜橋	Sitangshih, A.	西塘市
Sienhomen, A.	仙鶴門	Siting, A.	西亭
Siennümiao, II, T.	仙女廟	Sitsang, A.	西倉
Sikoh, A.	西葛	Sitsinkiao, A.	西津橋
Sima, A.	嘶馬	Sitwan, A.	西團
Sinanchen E, A.	新安鎮東	Soochow, I., T.	蘇州府
Sinanchen Ku, A.	新安鎮	Soshu, A.	蘇墅
Sinanchen Ku S, A.	新安鎮南	Süanpaochen, A.	宣堡鎮
Sinchang, III.	新場	Süchowfu, II, T.	徐州府
Sinchenshih, A.	新鎮市	Süehyenkiao, A.	雪堰橋
Sinchwang Ku, III, T.	莘莊	Suining Ku, A.	睢甯縣
Sinfeng Ku, A.	辛豐	Sungkiangfu, II, T.	松江府
Singtienmiao, A.	星甸廟	Süshe, A.	許舍

Süshechen, A.	徐舍鎮	Tangshan Ku, A.	湯山縣
Sutsien, II, T.	宿遷縣	Tangshui, A.	湯水
Szekia, A.	四甲	Tangtow Ku, A.	塘頭
Szeking, III.	泗涇	Tangwan, A.	塘灣
Szetow, A.	寺頭	Tanshang, A.	灘上
Szetuntze, A.	四墩子	Tantu, A.	丹徒
Szetzeshu, A.	獅子樹	Tanyang, II, T.	丹陽縣
Szeyanghsien, A.	泗陽縣	Taolinchen, A.	桃林鎮
		Taowu, A.	陶吳
Tachang, A.	大場	Tashengkwan, A.	大勝關
Tahingtsih, A.	大興集	Tasühang, A.	大徐巷
Tahokow, A.	大河口	Tatsiangmen, A.	大牆門
Taichow Ku, II, T.	泰州	Tatsowchwang, A.	大鄒莊
Taihing, II, T.	泰興縣	Tatwan, A.	大團
Taikikiao, A.	戴溪橋	Tayishan, A, T.	大伊山
Taitsang, II.	太倉州	Tiaokiapu, A.	刁家鋪
Takang, A.	大岡	Tienchwang, A.	田莊
Takiang, II.	大港	Tienwangsze, A.	天王寺
Takiao, III.	大橋	Tingkiaho, A.	丁家伙
Talitsi, A.	大路集	Tingkiaso, A.	丁家所
Taluchen, A.	大路鎮	Tingkow, A.	丁溝
Tangchüan, A.	湯泉	Tinglin, A.	丁亭林
Tangkiacha, II, T.	唐家閘	Tingling, A.	丁定林
Tangkiao, A.	塘橋	Tingshan, A.	丁山
Tangkow, III.	蕩口	Tingyen, A.	丁堰

Towkiao, A.	頭橋	Tukiahang, A.	杜家行
Towkwan, A.	頭關	Tukiao, A.	土橋
Tsangki Ku, A.	滄溪	Tumenkiao, A.	陡門橋
Tsangtow, A.	蒼頭	Tungchow, II, T.	通州
Tsaoho Ku, A.	皂河	Tunghaichen, A.	通海鎮
Tsaokiao, A.	漕橋	Tungkan, A.	東坎
Tsaokiatu, III.	曹家渡	Tungkow, A.	東溝
Tsaotang, A.	曹塘	Tungkow W, A.	東溝西
Tsaotien Ku, A.	曹甸	Tungli Ku, III.	同里
Tsiaotien, A.	焦店	Tungliu Ku, A.	東流
Tsienchow, A.	前洲	Tungmatow, A.	東碼頭
Tsienkiao, A.	錢橋	Tungpa Ku, A.	東壩
Tsienkiatsi, A.	錢家集	Tungshan Ku, II.	東洞庭山
Tsientun, III.	茜墩	Tungshankiao, A.	東善橋
Tsikiao, A.	漆橋	Tungtaihsien, II, T.	東善台
Tsingkianghsien, II	靖江縣	Tungtangshih, A.	東塘市
Tsingkiangpu, II, T.	清江浦	Tungting, A.	東亭
Tsingkow, II, T.	青口	Tungtsing, A.	銅井
Tsingpuhsien, II.	青浦縣	Tungyang Ku, A.	東陽
Tsingyang, A.	青陽	Tushan, A.	土山村
Tsintung, A.	溱潼	Tutsun, A.	渡村
Tsipao, A.	七寶	Tzetang, A.	直塘
Tsishumiao, A.	戚墅廟		
Tsunghaichen, A.	崇海鎮	Waikang, A.	外岡
Tsungming, II, T.	崇明縣	Waikwatang, A.	外跨塘

Wanglin, A., T.	橫林	Yangtsien, A.	羊尖
Wangting, A., T.	望亭	Yangtzehsien, III.	楊子
Wangying, A.	王營	Yaohwamen, A.	堯化
Wangyingchen, A.	王營鎮	Yaokiakiao, A.	姚家
Wantowchen, A.	灣頭鎮	Yaowan, II, T.	姚灣
Weiting, III, T.	唯亭	Yencheng Ku, II.	鹽城
Woosung, II, T.	吳淞	Yenkiakiao, A.	嚴家
Wukiang Ku, III.	吳江縣	Yenkiao, A.	堰橋
Wukiashih, A.	吳家市	Yenling Ku, A.	延陵
Wushanchen, A.	烏山鎮	Yilin, A.	益林
Wusih, II, T.	無錫縣	Yinhangchen, A.	益巷
Wuyu, III.	伍佑	Yüanchaokiang, A.	袁灶
		Yüanshan Ku, A.	元山
Yangchow, II, T.	楊州府	Yüchi, A.	玉祁
Yangchwang Ku, A.	楊莊	Yuehchengkiao, A.	月城
Yangho, A.	洋河	Yükow Ku, A.	漁溝
Yanghwatsi, A.	仰化集	Yunganchen, A.	永安
Yangkiachwang, A.	楊家庄	Yunghingsih, A.	永興
Yangkiatsih, A.	楊家集	Yuntsun, A.	永村
Yangkingchen, A.	楊家鎮	Yüsi, A.	運西
Yangshe, A.	洋涇鎮	Yütung Ku, A.	餘東
Yangshuyüan, A.	楊舍園		

ADDENDUM (*September, 1916*)

Shatowchen, A. 少頭鎮

## APPENDIX V.

### CURRENCY, WEIGHTS AND MEASURES IN PRINCIPAL TOWNS<sup>1</sup>

*Authority* : Imp. Japanese Rys., Official Guide, vol. iv, 1915.

**Nanking.** The *currency* in use at Nanking comprises dollars, small silver coins, copper coins, small copper pieces (with a square hole in the middle), and bank-notes. The silver dollars are of several kinds: the Mexican dollar (popularly known as *ying-yang*), and the yüan-yin (popularly known as *lung-yang*), issued by either the Hupeh Mint or the Hunan Mint. The small silver coins (*hsiao-yang-yin-tzũ*) comprise pieces of 20 cents (*liang-chiao*), 10 cents (*i-chiao*), and 5 cents (*pan-chiao*). The copper cent known as *t'ung-yüan*, or more popularly as *t'ung-ko-tzũ*, is worth one-tenth of *i-chiao* (10 cents). The smaller copper cash known as *t'ung-ch'ien*, with a square hole in the middle, are old native coins (among them being found some privately coined, which, however, circulate on a par with those issued by Government mints).

*Weights and Measures.* The Chinese unit of long measure in use in Nanking and neighbouring regions is the *ch'ih* (foot), which is equal to 13.28 English inches. The smallest measure of capacity is the *shao* or *sho* (.0728 gill); 10 *shao*=1 *ho*; 10 *ho*=1 *shêng* or *sên*; 10 *shêng*=1 *tou* (2.25 gals.). The weights are of two kinds: one having the *li* as its unit,—10 *li*=1 *fên*, 10 *fên*=1 *ch'ien*, 10 *ch'ien*=1 *liang* (580 grs.); the other making the *chín* (or catty, 1½ lb.) its unit,—2 *chín* making 1 *yin* and 100 *chín*=1 *tan* (or picul=133½ lb.).

**Shanghai.** The Shanghai *currency* comprises the old Chinese copper cash, copper coins (cent pieces, minted at Soochow,

<sup>1</sup> See general chapter on Financial Conditions of China in Vol. I.

Hangchow, Hankow, and Canton), 10 and 20 cent silver coins (minted in Kiangnan, Hupeh, and Kuangtung), Mexican dollars (commonly called *ying-yang*), shoe-silver pieces, bank-notes of five denominations—1, 5, 10, 50, 100 dollars—issued by foreign and native banks. The rate of exchange of these different kinds of bank-notes is advertised daily in the papers.

*Measures* : (1) cloth measure, 1 *ch'ih* (Chinese foot)=13·85 to 14·05 English inches ; (2) shipbuilder's measure, 1 *ch'ih*=11·55 in. ; (3) tax-collector's land measure, 1 *ch'ih*=13·18 in. ; carpenter's measure, 1 *ch'ih*=11·14 in.

*Weights* are far from being uniform ; the common terms are *liang* (tael), *kin* or *tching* (catty), *tan* (picul), and *shih* (16 *liang*=1 *kin* ; 100 *kin*=1 *tan* ; 160 *kin*=1 *shih*),—1 *liang* being equal to  $1\frac{1}{3}$  oz.

**Soochow.** The Soochow currency comprises Mexican dollars, *lung-yang* (dollars) minted in Hupeh, Kuangtung, Kiangnan, and Chekiang ; copper cents (*t'ung-ko-tzŭ*) and old copper cash (*t'ung-ti*), a thin round piece with a square hole in the middle (1 *t'ung-ko*=10 *t'ung-ti*) ; paper-money—silver notes issued by the Hongkong and Shanghai Banking Corporation, Chinese Bank of Commerce (*Chung-kuo T'ung-shang Yin-hang*), and Yokohama Specie Bank.

*Measures.* Linear : tailor's *ch'ih*=14 in. ; carpenter's *ch'ih*= $\frac{8}{10}$  of the tailor's *ch'ih*. Capacity : several kinds of measures are in use, of which the *fêng-ho* (fong-hoh) is the standard, the others differing by a small fraction from it in the value of the *shih* (3 bushels). *Weights* : for most articles 1 *chin*=16 *liang*= $1\frac{1}{3}$  lb. ; but 1 *chin* of coal=14·4 *liang*= $1\frac{1}{4}$  lb.

## APPENDIX VI

### NOTE ON SIGNALLING FACILITIES

VISUAL signalling is difficult in the greater part of Kiangsu owing to the flatness of the country. In the SW. corner of North Kiangsu, in the neighbourhood of Haichow and Süchowfu, there are conspicuous hills well adapted for signalling. The highest of these is Yün-t'ai Shan, about 2,000 ft., near Haichow, but the average height is 500 to 600 ft. In South Kiangsu, although isolated hills stand up above the general level, they are in most places not close enough together to allow of their being used as a chain of signalling stations. It is, however, possible in clear weather to signal from Kunshan to Changshu Ku and to Soochow, and also from Wusih to the hills near Kiangyin; while the country between Chinkiang and Nanking is hilly, and signalling would present few difficulties. But no reliance can be placed on heliographing over long distances in the climate of Kiangsu, where cloudy days are common and continuous clear weather cannot be expected at any season.

Pagodas are frequently to be found in the vicinity of walled cities, but as a rule there is no means of climbing them, and although some of the larger pagodas have a staircase, they are surmounted by a roof overhanging a narrow gallery and are not convenient as heliograph stations. There are no high, flat-topped buildings. Should signal stations be required, it would generally be necessary to erect towers for the purpose.

For short-distance signalling also the flat country is most unsuitable, since villages, farms, orchards, and clumps of trees obstruct the view in all directions. Mounted messengers would be unable to move rapidly, so that for communication reliance would have to be placed chiefly on field telegraphs and telephones, and on fast launches or motor boats.



# APPENDIX VII

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